OIL Industry NEWS

# National Petroleum News

OIL Teletype NEWS

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## Plant Blockade Threatened By Truckers Union

*By Teletype*
N.P.N. News Bureau

**LOS ANGELES, Dec. 1.—The threatened blockade of southern California refineries scheduled today as an outgrowth of the maritime strike failed to materialize. Roving bands of picket cars were reported stopping an occasional truck but traffic was kept moving by police patrol cars.**

**An argument as to jurisdiction between the oil workers' industrial union and the teamsters' union prevented concerted action. In case of active picketing, the oil companies ordered passive resistance and for non-union drivers to return to the plants.**

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LOS ANGELES, Nov. 27

Threatened blockade of refineries in the Watson and Signal Hill districts on Nov. 30 by members of the truck drivers' union was expected to create a crisis in the maritime strike situation.

Some question arose as to how the opposing sides would line up. On the one hand, jurisdictional disputes might prevent a united front on the part of the International Teamsters Union and the Oil Field Workers Union. Also, officials of major oil companies were reported divided in their attitude toward the blockade. Some favored drastic action to halt it by calling on police authorities to maintain open highways, and others preferred to stand aside and wait until the embargo had caused so much inconvenience to consumers that public resentment against the strikers would come to a head.

Some doubt existed as to whether effective police protection could be given to refinery trucks on their trips from the plants. The probability appeared to be police protection would be restricted to a limited area in the vicinity of the refinery.

Another factor in the situation might be an open break between teamsters and oil workers when the truck drivers carried out their threat to picket the refineries and force all drivers to become members of the teamsters union. Approximately 2000 men are engaged in oil trucking work in the Watson and Signal Hill districts.

Police of Long Beach, Watson and Signal Hill have issued orders no trucks shall be stopped on the roads to find out if the drivers are union men and to

(*Continued on page* 10)

## *First Long Distance Call Placed from Plane*

TULSA, Nov. 28.—From a height of 8000 feet, while over Joplin, Mo., Frank Phillips, president of Phillips Petroleum Co., held what is said to be the world's first airplane long distance telephone conversation.

Using equipment developed by electrical engineers of the Phillips company, Mr. Phillips put in a call for his wife in Chicago. A few minutes later he placed a call for his New York office.

He said that the handset phone in the airplane cabin, through a radio microphone at Bartlesville can be connected with any telephone in the world's long distance system.

## EXCESS DRILLING DUE TO PRORATION METHODS

*By Teletype*
N.P.N. News Bureau

OKLAHOMA CITY, Dec. 1.—Recognition of the importance to oil producers of the problems to be discussed, brought to Oklahoma City today, for the convention of the Independent Petroleum Association of America, one of the largest crowds to assemble here in years.

It was the general opinion that, in practical importance and pertinent discussion of today's production problems, this meeting could take rank with the best the industry has ever held.

Restriction of drilling, limitation of oil imports and balancing of supply with demand were featured topic, with drilling restriction in the forefront of the discussion.

In a report by a special committee of nine, headed by Robert E. Hardwicke, Fort Worth attorney, blame for unnecessary drilling was placed on the policies of state regulatory commissions which prorate production on potential basis, without regard to acreage drained. This places a premium on new drilling, resulting in lower and lower allowables per well, it was pointed out.

The committee consists of engineers Don R. Knowlton, Phillips Petroleum Co.; C. E. Yeager, Texas Pacific Coal and Oil Co., and J. R. Pemberton, oil umpire, Los Angeles; lawyers W. P. Z. German, Skelly Oil Co., Villard Martin, Tulsa, and Mr. Hardwicke and operators A. S. Ritchie, McPherson Drilling Co., Wichita, Kans., C. P. McGaha, Wichita Falls, Texas, and Van S. Welch, Artesia, N. M.

After outlining the problem the committee suggested remedies. It said, "unnecessary and excessive drilling will almost automatically cease and reasonable, uniform drilling will almost automatically follow, whenever the method of allocation, as between operators in a field, is based upon a proration unit comprising not less than an area which one well will efficiently and economically drain and which then provides for distributing the allowable in a manner to take into account the differences in the recoverable oil in the various productive units in the field.

"A somewhat similar result is reached by a uniform spacing program with the spacing unit fixed at approximately the same size as the proration or drainage unit above mentioned, even though distribution be on a per well potential basis; provided no exceptions are given to the spacing rule, or if there should be such exceptions, then with the allowable per well adjusted in order to prevent discrimination against other tracts."

The eyes of all oil men will be on Washington, with the convening of the Congress in January. Will it impose new burdens on the industry? Will it listen to

(*Continued on page* 10)

## *Three Times Cost of Oil Burners Was Spent in 1935 for Oil*

NEW YORK, Nov. 30

Is a heating oil consumer as valuable to the oil company as a gasoline consumer? G. Harvey Porter, managing director of the Oil Burner Institute, in discussing future fuel oil markets, pointed out that an oil burner uses as much dollar value of oil company products per year as an automobile.

Porter emphasized the mounting public acceptance of oil burners and the resulting effect on heating oil sales. He took 120 as an example, stating that in that year 12,500 oil burners were in operation, while in 1935 there were 1,154,700. He said that in 1920 less than 1,000,000 barrels of heating oil were sold and in 1935 that figure rose to 73,700,000 barrels.

The increasing demand for heating oil has raised the status of fuel oil from a by-product to a major product, Porter said, pointing to the new market for fuel oil created by the present public acceptance by the public of automatic heat.

"From the standpoint of the refiner and the marketer there is more than an inter-dependence between the oil burner and the fuel oil industries," he said. "The year 1935 was the peak year for the sale of domestic oil burners—154,700 units producing $53,500,000 in retail sales. But in 1935, 73,700,000 barrels of heating oil produced $177,800,000 in retail sales—more than three times as much consumer money spent for fuel as for equipment."

Speaking of the future of heating oil, Porter said, "The potential market for heating oil far outweighs the existing market in importance. At the end of 1935 there were an estimated 9,000,000 homes in the U. S. with central heating plants. Of this number, only 12 per cent had automatic oil heat."

# *W-H Law Ruling Reconsidered As Result of Jobbers' Protest*

WASHINGTON, Nov. 30.—Labor department officials have agreed to reconsider their holding that independent oil jobbers are subject to the Walsh-Healey government contracts law, while refiners are exempt in their marketing operations, according to Paul E. Hadlick, secretary of the National Oil Marketers Association.

Acting on protests from several of his members, Hadlick wrote Secretary of Labor Perkins, who is administering the W-H law setting labor standards for government contractors. He requested a conference, saying "it is difficult for our group to understand how such a ruling was made."

"It is, if applied, unfair to the Independent oil jobbers who are members of this association," Hadlick wrote Secretary Perkins. "Our members, in many instances buy from refiners who also bid on government business; yet in the case of the refiner he is exempt from the Walsh-Healey law in marketing, and our members are subject to it.

"If the persons handling this matter thoroughly understood the position occupied by the Independent oil jobber in the industry, his functions, etc., I doubt if such a ruling would have been made," he added.

Hadlick conferred with Labor Department officials Nov. 27. He says they assured him that the ruling protested would be reconsidered.

Meanwhile, Hadlick has submitted three other questions under the Walsh-Healey law for a ruling. Briefly, they are:

Where a company operates at two or more points, is only the plant from which deliveries are made subject to the government under the W-H law?

In a plant sufficiently large, are only the employes actually engaged in handling products going to the government under the act?

Which of the following are covered by the W-H law: Executives, salesmen, bookkeepers, stenographers, clerical help, watchmen, truck drivers, and terminal and warehouse employes?

## Plant Blockade

(*Concluded from page* 9)

which union they belong. All highway police facilities of state, counties and municipalities have been co-ordinated into a single unit to combat the threatened blockade.

Motorized police personnel will form a cordon covering the entire refinery area and the territory between this area and metropolitan Los Angeles. Two-way radio will be utilized to concentrate reinforcements promptly at any point in the disturbed areas.

In San Francisco, striking marine workers picketed the Standard Oil building in protest against the conviction of men engaged in the tanker strike nearly two years ago. Pickets were also sent to the city hall in connection with the scheduled discussion by the board of supervisors of repeal of an anti-picketing ordinance.

So far, no attempt had been made to prevent the loading and unloading of tankers. The oil industry, however, is vitally affected by the tieup of regular cargo and passenger vessels and the loss of bunkering business.

Direct inclusion of tanker personnel appeared more likely with the announced intention of forming a national federation of marine workers, linking existing organizations on the Atlantic, Gulf and Pacific coasts.

## Ruling On Plant Shipments Given

WASHINGTON, Nov. 26.—Refiners shipping direct to governmental agencies are under the Walsh-Healey law, even though the contract is held by an independent oil marketer, under a ruling by Secretary of Labor Perkins.

Explaining the ruling, she said some "dealers," instead of furnishing goods from stock, have been placing orders with factories not conforming to labor standards of the W-H law and having such factories ship their products direct to the government.

Text of the new regulation, issued Nov. 25, reads:

"Whenever a dealer, to whom a contract within the (Walsh-Healey) act and regulations has been awarded, causes a manufacturer to deliver directly to the Government the materials, supplies, articles or equipment required under the contract, such dealer will be deemed the agent of the manufacturer in executing the contract. As the principal of such agent the manufacturer will be deemed to have agreed to the stipulations contained in the contract."

## Excess Drilling

(*Continued from page* 9)

proposals on federal regulation?

No specific answer can be given, of course, but Russell B. Brown, general counsel of the Independent Petroleum Association of America, in his annual report, gave his observations, gained from long and close contact with the Washington scene.

"The oil industry will be interested in the attitude of the incoming Congress on many matters," said he. "Possibly fundamental to the policy of that Congress may be its attitude on the broad question of natural resources. There is a strong body of opinion which is constantly stressing the necessity of conserving our natural resources and especially the irreplaceable ones.

"Some of these have been urging a very direct form of federal control over such resources. In the past their arguments for such federal control have been strengthened by wastes in the various industries, notably in the petroleum industry.

"The advances made in reducing wastes of gas and in eliminating open storage of petroleum and the beneficial effect of holding the supply in close relation to demand, thus keeping oil underground until it is needed, has done much to cancel out the effect of some of these arguments. As had been repeatedly pointed out, every step taken by the petroleum industry to set its own house in order is one new dike erected against the rising tide of nationalization.

"The general movement to protect such natural resources as petroleum from uneconomic exploitation is too serious to be ignored. It cannot be fought by mere opposition. It can only be met by the industry eliminating those excesses of which it has admittedly been guilty in the past.

### Co-Ops a Threat

Another threat to oil was seen by Mr. Brown. The co-operative movement, called "collectivist", Mr. Brown said, in the literature of some sections of the movement, "is closely related to that new philosophy which urges that the 'profit motive' be eliminated from business. . . . While co-operatives have for some time been small factors in the petroleum industry, they are growing in importance. Today they may not be seriously affecting our production, refining or marketing, tomorrow they may be. . . .The large number of bills presented to the last Congress granting special privileges to these co-operative groups and appropriating large sums of money to finance them will probably be renewed at the coming session of Congress."

Some measures which the industry should urge upon Congress, in Mr. Brown's opinion, were:

Continuance of the Connally act, which prohibits interstate shipments of "hot" oil. This act expires in June, 1937.

Renewal of excise taxes on imported petroleum. The law on this expires in 1937.

Enactment of the oil import bill which was before the last session. This would limit imports to 4.5 per cent of demand.

Tax on asphalt imports.

Renewal of the Interstate oil compact, which expires next September.

Repeal of present federal sales taxes on gasoline and lubricants.

### Five-Point Program

The five-point program of the IPAA, enunciated last November at the annual meeting in Dallas, was designed to promote the long sought condition known as stabilization.

The five points were: 1—federal legislation limiting petroleum imports, preferably to a fixed proportion of national requirements; 2—orderly withdrawals from storage; 3—balancing of domestic production with consumer demand and with fair quotas of production for each producing state; 4—orderly development of new pools by agreement of operators; 5—provision for voluntary agreements within the industry, subject to federal approval.

J. D. Collett, Fort Worth independent producer, president of the Mid-Continent Oil & Gas Association, discussed these five points at the meeting Nov. 30. Currently, much of the discussion relates to point 4 of the program. Mr. Collett lent his voice to the plea for better planning of pool development, to the end that unnecessary drilling may be eliminated.

He went back to the petroleum code days, said that new pool development plans, a code requirement, saved operators the cost of many expensive wells.

"The producing branch of the industry is rapidly putting itself in a position that corresponds to that in which the marketing branch found itself a few years ago when it continued to build and lease filling stations at a rate beyond all reason", he stated. "Every new station meant increased investment out of all proportion to the increase in the volume of business and even in worse ratio to profits. In fact, it meant not only no profit on the new investment but reduced or eliminated entirely the profit on the old.

### Postponing Payout

"In the same manner, we find the producing branch drilling inside locations, pushing development in new fields and adding new wells on a schedule of rap-

idly declining allowables per well. The result is the pay out date is getting further and further from the completion date of the well and the cost per barrel of new production is mounting higher and higher.

"The situation has already reached an acute stage, as will be shown by an analysis of the cost per barrel of added production under many programs carried on during the past year by companies and individual operators. The total production of many operators a year ago, by reason of decreased daily allowables, has been increased little and, in some cases none, notwithstanding a heavy investment in new wells and equipment.

".....One of the smaller companies has spent about $300,000 on new wells this year and their total allowable today is only one barrel above what it was this time last year, a pretty high price to pay for increased allowable. An independent operator in Texas told me a few days ago that his total for new wells this year was just below $250,000 and his total allowable at present is 100 barrels less than a year ago."

**Col. Thompson Chides**

Now, one of the things most emphasized in the current crusade against excessive drilling is the failure of state regulatory bodies to remove the incentive to drill many wells. The argument is that, if commissions would allot quotas on the basis of acreage drained by a well, at least in part, instead of putting all emphasis on potential of the well, the race to build up allowables through drilling would be ended.

Col. Ernest O. Thompson, chairman of the Texas railroad commission, and chairman of the Interstate Compact Commission, spoke on "What the Oil States Compact Cannot Do." There was, in his address, a reply to some of his critics—the acreage-proration proponents.

Reciting Article 5 of the Compact, which declares that it is not the purpose of the compact to limit production for purposes of stabilizing price, or promoting monopoly or "regimentation" but that the compact is for the sole purpose of conserving oil and gas and preventing waste, Col. Thompson said:

"Often times the best provision that can go into an agreement is that provision which points out in plain language what the agreement does not mean and what is not permitted to be done under the treaty. This provision was put into the oil states treaty out of an abundance of caution for fear that there might be those who would undertake to use the Oil States Compact for purposes which would cause orders written under the guise of conservation to be stricken down because they were price-fixing orders rather than waste prevention measures.

**Pressure on Commission**

"To give you a clear illustration of what I mean, I cite to you the effort that has been made in Texas and is constantly being made before the Railroad Commission to get it to give more and more consideration to acreage with the view that money expenditures in the drilling of wells could be saved to the operators.

"The purpose of conservation measures is not to save money to those who wish to drill. The purpose of conservation measures is to prevent waste in the production of oil and gas with the sole aim in view that the greatest ultimate amount of oil and gas shall be recovered from the sands for the benefit of mankind.

"Stated conversely, it is the purpose of true conservation, as it applies to oil and gas, that the rules and regulations of the regulatory body shall be based upon those scientific principles which will, when carried out, cause to be left in the sands down in the reservoir beneath the surface of the earth just as little oil and gas never to be recovered as is within the bounds of reason humanly possible. . . . .

"What I am trying to bring out is that there is a very distinct and positive difference between preventing actual physical waste in the production of oil and gas and the saving of money for those who produce the same. There are those in the industry who would like very much to be compelled themselves, and to have others com-

(*Continued on page* 12)

## *Well Spacing Case Is Appealed*

WASHINGTON, Nov. 27. — Magnolia Petroleum Co. has appealed to the U. S. Supreme Court to reverse a decision of the lower federal courts denying it a permanent injunction against production of oil from an alleged illegally drilled well adjoining its property.

The case involves the well of G. T. Blankenship, the petition continues, drilled under a temporary injunction of the federal district court of western Texas after the Texas Railroad Commission had refused to make an exception from the Texas well spacing law requiring oil wells to be not less than 330 feet from a property line.

The Gregg county district court later issued an order requiring the railroad commission to grant Blankenship a certificate of compliance with state conservation laws, the Magnolia petition states.

# *State Compact Aids Refiner Western Producers Are Told*

*By Telegraph*
N.P.N News Bureau

OKLAHOMA CITY, Dec. 1

The interstate oil compact is proving of real value to the refiner, by keeping surplus crude off the market and preventing the mushroom growth of refineries built to operate on flush cheap crude.

That was the message given by C. M. Boggs, head of the Kanotex Refining Co., Arkansas City, Kans., president of the Western Petroleum Refiners Association, before the annual meeting of the Independent Petroleum Association of America here.

"Regardful of his needs for a balance of supply and demand, the compacts have been a stabilizing influence on his business", asserted Mr. Boggs, speaking for Mid-Continent refiners particularly. He pointed out that at no time is the established refiner desirous of seeing vast quantities of crude produced for which there is no market.

"If the small refiner could be assured," stated Mr. Boggs, "that any over-production above refiners' needs could all be taken care of without economic waste, he might not be so fearful of the result. Past experiences have proved that much of an over-production of crude is allowed to be hawked about to any buyer at low prices, and refiners with unfavorable freight rates are at the mercy of low prices made by those buyers of the cheap crude with freight rates which permit an advantage over their competitors."

Mr. Boggs said that the refining industry is over-built and he warned prospective entrants to study the economics carefully before making their investment. He continued:

"Therefore, it is the hope of the small refiner in the Mid-Continent field that the state authorities will not allow themselves to be persuaded into raising the allowables to any extent above the normal market demands."

He pointed out that, while it is true major pipe lines take most of the large flush field production, the smaller refineries in the Mid-Continent area furnish an outlet for much of the oil produced from the older and smaller fields of the district, and are necessary to the continued operation of these old pools.

In discussing the importance of stable and assured production of crude in connection with refiners' jobber contracts, Mr. Boggs said about 95 per cent of the gasoline from Mid-Continent crude is sold under contract, usually written for the duration of one year, but in some instances for as long as from three to five years. Thus it is seen that the refiner appreciates the benefits of, and must have, a permanent, assured and effective balance of supply with demand of his crude oil needs.

"You may deem yourselves fortunate indeed", Mr. Boggs told the producers, "that you do not have to market your raw material through a service station to the buying public. We who are not producers can never know the joy of selling to a company which calls for and collects our products, pays for them regularly, and provides a market practically all of the time."

"You who are not the refiners who have built up their business over the years, will never know the fears experienced by them as to their future, when other refiners start rolling tank cars of gasoline without a buyer into the market, hoping against hope that a miracle will happen and that someone, somewhere, will buy that gasoline even if the price is considerably under the cost of manufacture", he concluded.

# Ford Will Build His Own Tires

DETROIT, Dec. 1.—Persistent rumors that the Ford Motor Co. would manufacture its own tires were confirmed here this week. It is said the company is constructing a tire factory to be completed in about 10 months.

The Ford venture into tire making is reported to have been brought about by a disturbing labor situation in Akron, making uncertain a steady supply so necessary to automobile production lines.

People in close touch with Ford activities say that Ford is building a plant on its River Rouge property, presumably for tire manufacture, but no official announcement has yet been made.

Ford required about 5,000,000 tires for 1936, which is about one-ninth of all the tires made this year. It is believed the company will not build a plant sufficient to turn out its total tire needs, but only a part of its requirements.

# *State Should Operate Fields On Its Lands, Says Governor*

LOS ANGELES, Nov. 27.—Drilling and operation by state agencies of oil fields on state owned or controlled lands was seen as a possibility following an expression by Governor Merriam of California.

In a press conference at Sacramento the governor said he had visions of the state's paying off its total indebtedness and financing relief without taxes by exploiting its own oil pools.

It was thought this view was prompted by recent testimony on the part of William Kemnitzer, geologist, that the state should realize at least $200,000,000 from its tidelands pool in the Huntington Beach field.

The governor said he felt the state should do its own drilling and get 100 per cent of its own oil, condemning right of ways and drilling locations.

If the legislature would not approve this—it was generally thought by others that it would not—then authorization should be given the director of finance to lease drilling rights on a competitive basis. The object of this would be to obtain for the state a much larger royalty than is now offered by drilling companies.

The governor also indicated that it would be possible for California to get at its oil holdings without polluting the beaches or destroying their beauty by slant or directional drilling. Details as to how this would be done were not forthcoming.

Wildcatting or "going socialistic" would not be contemplated, according to reports, but the state would merely do what is necessary to profit to the maximum extent from development of its resources.

While opinion of local oil men was that the state would not enter into actual drilling and production operations, it was generally believed strenuous efforts would be made at the 1937 session of the State Legislature to obtain higher royalties from public oil lands. These are principally in the form of beach tidelands.

# First Pipeline Valuation Study

*By Teletype*
N.P.N. News Bureau

WASHINGTON, Nov. 30.—The Interstate Commerce Commission today issued its first tentative valuation report on the oil pipeline companies. Under the law, the tentative valuations become final unless protested within 30 days.

Tentative valuations totaling $15,712,000 were placed on properties of Atlantic Pipe Line Co. in the first report. This includes $1,175,000 for property used for purposes other than those of a common carrier, consisting of tankage which the commission has tentatively classified as being in excess of transportation needs.

Atlantic owns and used approximately 1350 miles of trunk and gathering lines in Texas and New Mexico.

The tentative valuation report presents in detail the cost of reproducing the plant new, the cost of reproduction less the depreciation existing in the properties, original cost, value of lands and rights, working capital, and corporate and financial history.

Fifty-five companies, classified as interstate common carriers of oil and petroleum products by pipelines, have been inventoried and audited and are in process of valuation. Separate reports will be issued on each of them.

## *Two Arrested in Attempt To Tap Gasoline Line*

CHICAGO, Nov. 20.—An attempted tapping of the Great Lakes gasoline pipeline resulted in a couple being placed on probation for a year when arraigned yesterday in a county highway court.

The man and wife accused were claimed to have run out of money, also gasoline, early this month, and an acquaintance suggested tapping the gasoline line. Efforts to tap the line near the terminal in Franklin Park, western Chicago suburb, were halted by county highway police before the job was completed.

Walter Trainor, pipeline company agent from Tulsa, investigated the case, after a warning on the possible dangers of tapping a high pressure line with steel tools, and possible fire and explosion hazards, he recommended probation for the couple.

# Excess Drilling

(*Continued from page* 11)

pelled, to spend less money by allowing them to drill far fewer wells, or rather I should say, by denying them the privilege to drill more wells than they would like to drill as a mere money-making proposition. . . . . .

"It is my studied and deliberate opinion that, if we prevent all possible physical waste, we shall have done all that we should be allowed to do. More than that the law will not allow us to do, and should not. The American people want cheap gasoline. . . . . .State regulatory bodies should not allow themselves to be put in the untenable position of attempting to force profits to the few against the many. . . . . ."

**Conservation and Imports**

The period of individualistic competition has about expired, declared Virgil R. D. Kirkham, geologist, Saginaw, Mich. "We must now move into an era of industrial and economic co-ordination," he said.

"First must come a change in the fundamental laws for oil and gas which will include laws controlling oil and gas ratios and bottom hole pressures. Laws must be devised which will correct and prevent the evil of offset drilling in areas of flush production, operating under proration. Other laws devised to control wildcatting and the development of pools resulting from that form of exploration are necessary. Those laws should probably be state laws so as to beter fit the needs of local areas."

A. J. Crites, manager of the Anchor Oil Co., Maricopa, Cal., urged restriction of imports. Excise taxes were helpful but, as domestic production costs increase, the protective effect of excise taxes on imports diminishes. He asserted that imports averaged 126,000 barrels daily in 1933 but that the trend has been upward and that, for the first nine months of 1936, the daily average was 153,000 barrels. Like other speakers, he favored restriction of imports by federal act to some fixed percentage of domestic requirements.

The annual reports of President Charles F. Roeser and Executive Vice-President Harold B. Fell reviewed the association activities.

"One year ago", said Mr. Roeser, "we adopted a program which set forth principles and policies which we believed important to our own success, and equally important to the welfare of the entire American people. There was nothing in that program which was intended for the benefit of any group or clique. We believed that it was based upon sound, economic principles. During the past year we have seen that program put into effective action. The methods we suggested have not been always followed. The conditions we desired have not been written on the statute books to make secure our position; but that balance between supply and demand upon which we insisted has been largely realized.

"The reduction of oil imports to a proper ratio with the amount required for domestic consumption and our export trade has been approached, although not yet fully in force. We have disposed, without harm to our price structure, of our excess storage. Our statistical position is the best we have known in many years.

"We have received some price increases. We are in a position to expect even more price increases. We have eliminated wastes which were costly. We are demonstrating that we are learning our lesson that volume should not be our goal, but that an adequate price should be the test, rather than the amount of our production."

Mr. Fell declared that one strength of the Independent Petroleum Association of America, during its seven years of life has been that, "it has consistently taken a positive and constructive position, instead of a merely negative one. . . . .This policy may not be as dramatic as some sensational opposition to principles or measures which others might suggest. It has, however, been successful."

## *Second Atlantic Port In Oil Shipments*

WILMINGTON, N. C.—Handling 271,846,506 gallons of gasoline in 1935, this North Carolina seaport had the second largest volume of petroleum products of any port on the Atlantic seaboard, according to the Wilmington Chamber of Commerce. For gasoline alone, 176 ships were required. Had all this gasoline been reshipped by rail, it would have required 33,981 tank cars; by highway transport, 77,671 tank trucks (averaging 3500 gallons each).

## *Refinery Dismantled*

CUSHING, Okla., Nov. 28.—One of the refineries of the United Refineries, Inc., here is being dismantled after having been shut down since 1933. The plant formerly was owned by the Globe Oil & Refining Co. but was sold to the United interests about a year ago. It was constructed in 1930. The United has a smaller skimming plant here which is not being razed.

# Michigan Public Is Offered Stock In Dixie Refining

DETROIT, Nov. 30. — First public announcement of the new stock issue of the Dixie Refining Co. appeared in Detroit newspapers Nov. 29. Authorized capital is 1,800,000 shares, priced at a par value of $1 per share.

The Dixie Refining Co. is sponsored by Dixie jobbers in Michigan and other nearby states, who have already subscribed to 150,000 shares of stock and will serve to assure them and other Dixie jobbers of a gasoline supply and also serve as insurance for future requirements.

The advertisement announcing the stock issue states; "For the first time in Michigan (with one exception), a petroleum refining company, with a combination of a contracted crude oil supply (from the Mid-Continent field), a most modern licensed refinery plant strategically located with water terminal facilities on the Detroit River, experienced management and an assured market for its products, is being organized to serve the motoring public."

The plant, with an announced capacity of 4000 barrels, will be located at Riverview, near Trenton, Mich. The plant will include a cracking unit and will be licensed by "one of the major licensing groups", and will produce about 35,000,000 gallons of high octane gasoline annually, as well as other petroleum products, according to the announcement.

The Dixie distributing organization covers 10 adjoining states and sells over 100,000,000 gallons of gasoline annually through 2700 marketing outlets, of which over 450 are in Michigan.

Paul R. Kempf, of Ann Arbor, Mich., is president and general manager of the Dixie Refining Co. He is also president of the Dixie Terminal Oil Co., a joint gasoline buying enterprise of a group of Michigan Dixie distributors, and also secretary of the Staebler Oil Co., of Ann Arbor, and the organizer of Dixie Interstate, an organization of about 220 jobbers in the midwest.

Dr. George Granger Brown, of the University of Michigan and well known for his research work in refinery engineering, is vice president and director of the new refining company. Neil Staebler, of the Staebler Oil Co., is secretary, treasurer and director.

## *Gasoline Tonic Ads. Are Challenged*

WASHINGTON, Nov. 26.—Federal Trade Commission has issued a cease and desist order against P. A. Lefebvre & Co., Ltd., of Alexandria, Ontario, and Malone, N. Y., to stop certain alleged unfair representations in the sale of "Magic Gas" for mixture with motor fuel. Zatique Lacomb, Malone, was also named a respondent.

The FTC order directs the respondents to stop representing that their product, when mixed with gasoline or kerosine and used in internal combustion engines and motor vehicles, will increase mileage, prevent carbon, and make cars start easier.

Findings, according to the FTC, are that "Magic Gas," when mixed with gasoline or kerosine as directed, will not produce the results advertised by the respondent.

# Mexican Strike Off For Present

NEW YORK, Nov. 28.—A general strike of Mexican oil workers for Nov. 29 has been averted for a least four months, Secretary of Labor Genaro Vasquez announced today.

The workers accepted present labor contracts pending the drawing up of a new contract which must be concluded within four months, he stated. The proposals also stipulated that strikes in the future shall require the affirmative vote of two-thirds of the workers and that any new agreement reached will be made a part of the Mexican federal law and will be enforced by the government.

The present general strike threat of Mexico's oil workers is the culmination of several years of labor troubles with the demands of the labor unions becoming increasingly difficult to meet, according to oil company officials. Increasing tax difficulties and socialistic legislation also have hampered operations there, it was stated.

Oil companies involved in the labor disputes, through operations of their subsidiaries, include Royal Dutch Shell, Standard of New Jersey, Consolidated Oil Corp., Standard of California and Gulf Oil Corp.

Latest demands of the workers syndicate, which some employers say would involve additional operating expenses amounting to more than the company's present revenue, include:

Limiting the number of executives each oil company can have; vacations for workers ranging from 21 to 60 days yearly, depending on length of service and the oil company to pay round-trip, first class passage to any place employe selects for vacation; free housing with heat and ice for workers; all foreign technicians and technical advisors to be replaced by Mexicans within one year; allotment of approximately 12 acres of land to each employe for agricultural purposes; maintenance of a staff of over 200 men for the labor syndicate, all to receive pay from the oil companies; and reductions of the work week to 40 hours for non-shift men and 36 hours for shift men.

# E. Texas Gasoline Shipped As Kerosine, Is Testified

*By Telegraph*

NASHVILLE, Tenn., Dec. 1.—Delayed by a week's preliminaries, including the argument of 11 defense motions for dismissal of indictments and legal interpretations, the state of Tennessee started today to build up its case against W. H. Land, of Memphis, and G. G. Gean, of Halls, Tenn., oil dealers under indictment on charges of conspiracy to defraud the state of gasoline taxes.

This is the first of a series of cases in which over 20 gasoline dealers in the state have been indicted for evasion of the state 7-cent gasoline tax.

The defense gained its point only on one motion of the eleven introduced, the right to examine the state's documentary records before their introduction to the jury. The court today ordered the trial to proceed with the taking of evidence, less than four hours of testimony having been taken last week.

J. C. Greene, a state gasoline tax inspector, over whose testimony the week's legal wrangle hinged, opened the actual hearing of the cases with the records of gasoline and kerosine shipments to the Land Oil Co. in 1935. Greene's testimony was to lay the foundation for the state's contention that the gasoline was billed as kerosine by either W. H. Campbell, former Gladewater, Texas, refinery agent, or A. C. Taylor, oil broker, and shipped to Land as kerosine.

Greene's records revealed that Land received two cars of gasoline and 8 cars of kerosine over the Missouri Pacific railroad during 1935. The tank cars of gasoline were dated April 1 and April 5 and thereafter only kerosine was reported for the remainder of the year, Greene's records showed. Greene showed the billing of the tank cars at Gladewater through a bill of lading and not by actual examination, testifying that either Campbell or Taylor had drawn the bills of lading. As a result the railroads reported kerosine shipped to the Land Oil Co. and, upon receipt of the cars, the Land Oil Co. also reported kerosine to the state and paid no taxes, it is charged.

The tremendous increase in kerosine shipments reported, with the corresponding disappearance of gasoline reports, as in the Land case, led to eventual investigation and exposure of the fraud, the state's witness testified.

The state said it would prove later that each of these cars shipped to the Land Oil Co. and also to Gean contained gasoline and not kerosine, and had been falsely billed by the refinery agents to further the conspiracy to defraud the state.

Likewise, the state will seek to prove that Campbell, or Taylor, both absentee defendants in this first of a series of gasoline tax evasion cases, made original false reports, upon which the railroads unsuspectingly made their reports, and as part of a conspiracy whereby Land and Gean also made false reports.

Neither defendant had ever purchased kerosine before the alleged conspiracy, the state charges, but thereafter purchased only kerosine, according to the reports made to the state. Similar testimony will follow for Gean.

Campbell, who is indicted in the majority of the indictments, is a fugitive from a Tennessee extradition warrant from Texas and a reward of $1000 has been posted by the Tennessee authorities for his apprehension. Taylor is resisting extradition from Texas. The state's evidence in the present case is expected to take the greater portion of the week.

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## *Perhaps Fraud is Wholesale*

Some newspapers and most labor union officials are making a tremendous hullaballoo over the alleged effort of employers to violate the alleged necessity for secrecy in handling the Social Security pension applications of employes.

The yells of the labor union boys are of course to be expected, especially as they are now loudly and most belligerently proclaiming that the re-election of Roosevelt was an endorsement of all of their claims and charges against business. To hear them tell it, these labor union boys are running the White House and the Capitol right now. If this is their interpretation of this last election, what they overlook is that 16 million people said "NO" and it remains to be seen if all of the other 26 million people thought they were turning these United States over to a lot of labor union strong arm men to run.

But in regard to this yelling about the employer making use of the pension applications to get the truth from his employes. Might not the employer be entitled to the truth? Should not the employe have told the truth as to age and marriage, and so on when he sought the job? When did the labor leaders get a Power of Attorney From On High to waive the age old rule of truth-telling in certain cases?

One cannot imagine any employer is going to get overly particular if he does find that an employe has lied to him about age and being married. However, on that last, if the other party to the marital contract also is working, then how about the demand of these same labor leaders and of the government to put more people at work? To whom shall the employer turn a deaf ear, the false statement of his employe or the loud and peremptory demands of President Roosevelt and his government? What shall business's policy now be, that of keeping both members of the married couple?

In view of all the loud crying by and on behalf of employes fearing their employers may know the truth, one wonders the extent to which fraud has been perpetrated by the employes. Maybe most of the girls have gotten married during these hard times and husband is holding a job also, maybe a PWA job, or maybe they are fraudulently getting relief? Also maybe a good many tens of thousands or hundreds of thousands of employes have gotten way past all age limits but are still holding on to their jobs when ordinarily they would have retired? Perhaps this is what is responsible for the large number of those still unemployed? Has the usual turnover due to marriage and old age been halted and frustrated by the chicanery and false statements and fraudulent representations of the employes?

If we are to take the statements of the protestors as true, perhaps the above statements are not so ridiculous as they seem? Maybe business should accept the claims of the protestors as true and demand an investigation of the returns of its employes in order that this seeming wholesale fraud can be uncovered and those who should be employed today are given their chance?

One is rather impressed with the bloodthirstiness of these labor leaders and their newspaper supporters, and the attitude that they have taken over the government and will dictate from now on.

The question never has been of depriving people in this country of proper care for the old age, but the big question has been how to do it, and how to do it fairly, how to keep the chiselers from wrecking it and how to keep any scheme for such a noble and desirable purpose from ruining the country? Already the administration at Washington seems willing to admit this present law is not all that it claimed for it during the last election. There is evidence of admission that the famous "reserve" that is supposed to be behind this pension is a "reserve" on paper only and in addition is quite likely to wreck the country.

The revamping of this pension law can best be done in an atmosphere of study and fairmindness and not in the echoes of the rantings of the alleged "labor leaders" et al.

## *Where is the Jobber?*

What are Independent oil jobbers doing toward studying what to do about the tank car market, in the light of reports of a tightening of the crude oil situation and probable increase in the price of crude oil?

Tightening of crude oil certainly is not going to mean any surplus of crude oil on the market and a resultant surplus of gasoline on the tank car market.

How tight that crude oil market has been for some time is shown by the statement of the attorney for the Pure Oil Co. to the Texas Railroad Commission the other week in arguing for an increase in the proration allowable for a field in which the Pure is much interested. This attorney told the commission that, because of lack of sufficient crude on the open market and through inability, due to state regulation of its wells, to produce more of its own oil from its own leases, the company had had to buy more than 50,000,000 gallons of gasoline lately and sell it at a half cent loss to take care of its regular trade.

Presumably that gasoline buying is part of what the federal government has indicted the Pure and other companies for conducting as a "conspiracy." Now the Pure, in effect, puts it up to the Texas Railroad Commission to give it more crude so it won't have to do this buying and, presumably, draw more of the federal government's fire.

The jobber's profitable existence is inextricably wound up with the crude oil situation, with the natural tightening in the visible supply and particularly in view of the policy of proration of crude by state conservation officers who thus keep a surplus off the market, a policy which is indicated to them each month by the U. S. Bureau of Mines.

This jobber's situation discussed in detail by this editor at the Chicago meeting of the National Oil Marketers Association, which brought the original complaint of conspiracy to

the Department of Justice that developed in the indictment against 23 companies and 57 oil men and publishers. This discussion has been reprinted and NATIONAL PETROLEUM NEWS will be glad to send extra copies, to those interested.

The subject is far more important and fundamental to the jobber than any code of good practices that has been proposed; far more important than whether companies should give away pumps or sofa pillows or repaint a dealer's place of business and his chicken house too.

What is the jobber going to do about it and when?

## *Tells Industry's Story*

What industry can do to protect itself against unfair political attack by telling its story in a straightforward fashion to the voting public is shown by the outcome of the chain store tax fight in California. There, this last Nov. 3rd, by a majority of more than a quarter of a million, a proposal to assess a tax on chain stores was voted down. Making this showing the more remarkable is the fact that this proposal was No. 22 on the ballot.

Oil was not concerned in this particular fight but the oil industry might well take comfort and advice from the outcome and keep it in mind against future unfair attacks. All industry has an excellent story to tell but it is so seldom told the public. Against industry are being recited countless detached and stray bits of evidence by those seeking public votes. These reciters purposely tell only one side of the story. Industry should meet them head on with the whole truth.

This, it appears, is what the chain store people did in California. They early hired a good advertising man who for months first caused the stores as individuals to build up, by advertising and by radio, a goodwill story of themselves. Then, two months before election, they all sailed in with both barrels against the tax itself. The opposition that had been telling only half the truth or even none at all went down before the flood of the whole truth.

Oil will undoubtedly be subjected to many unfair attacks in the next few years in which half truths and fiction will be used to bolster the case of the attackers. By public speeches, by advertising and by ordinary every day contact the industry should frankly and directly and without equivocation meet these attacks. Oil has a wonderful story to tell but it must be told. Silence breeds suspicion.

Enlisted in the telling of some of the industry's story could well be the public officers and particularly the conservation officers of the important oil states. Their direct and selfish interest and their state's best interest lies in a prosperous, healthy oil industry, one that is well treated by the public and by other states and the federal government. In view of all that the oil states collect from the oil industry and, in view of the new responsibility they have assumed of regulating the supply of crude oil, which in turn affects price, for the benefit of the oil states, these state officials can most properly be asked to speak for the industry. We do not doubt that they will be glad to do so.

The industry's story should be told by all frankly and vigorously. And we mean the story of the entire industry, because every last person in the industry is adversely affected by unfair legislation and unwarranted political attacks.

## *False Advertising?*

Is this a little false advertising by the Social Security Board?

Points out a financial writer for the Cleveland Plain Dealer, which loyally supported Roosevelt for re-election, that the board in its prospectus on the pension fund says that the receipts will be "guaranteed never to earn less than 3% while in the U. S. Treasury." Asks the financial writer, where is the 3% coming from when the best the government can get as interest on its obligations is less than 2½%? A fair enough question.

## *Sinclair Head Resigns*

TULSA, Nov. 28.—With retirement of Wylie A. Martin as general superintendent of the Sinclair Prairie Oil Co., William L. Connelly, board chairman of that company, is now the senior man in the Sinclair companies' service.

Mr. Martin joined H. F. Sinclair in 1905, Mr. Connelly a year later. Sinclair then operated as an individual. Throughout the 31 years, Mr. Martin has actively superintended development operations for the Sinclair interests in the states east of California.

Mr. Connelly said that Mr. Martin has agreed to continue to act in an advisory capacity and he will keep his office in the Sinclair building in Tulsa. No successor will be named immediately.

OKLAHOMA CITY—David M. Logan, former state senator from Okmulgee and Wagoner counties, and well known as a geologist, has been appointed district oil and gas conservation officer by the state Corporation Commission. He will work in the Okmulgee district.

### Water Movement of Oil On Ohio Gains 43.6%

The 43.6 per cent gain in water-borne gasoline and oil moving on the Ohio river, in the Louisville district, the first nine months of 1936, as compared with 1935, was more than double that for all products, according to Lieut.-Colonel G. Van B. Wilkes, U. S. district engineer. A gasoline and oil tonnage of 924,961 in 1936 compares with 644,261 in 1935 for the first nine months of each year. (A multiplying factor of seven reduces these figures roughly to barrels.)

The only other product to surpass oil tonnage in this district on the Ohio river in either year was sand and gravel.

### S. D. Chain Tax Law Held Unconstitutional

PIERRE, S. D., Nov. 27.—South Dakota's chain store tax law has been declared unconstitutional in a unanimous opinion by the state supreme court. The court held that, inasmuch as the chain store tax bill carried an appropriation clause, a two-thirds majority was necessary to enact it into law. Neither the house nor senate had such a majority.

The appeal came from seven oil companies and seven merchandising firms.

LOS ANGELES, Nov. 27.—Water transportation of petroleum products into the "Inland Empire" of the Pacific northwest is assured following completion of the Bonneville dam project on the Columbia River.

## *'Bill of Rights' Seeks to Protect Motorist from Unfair Bills*

WASHINGTON, Nov. 27.—With Congress and 44 state legislatures meeting next year, local clubs of the American Automobile Association plan to press the legislative program adopted by the association at its 34th annual convention last week at Detroit.

Highlight of the convention was the drafting of a "Bill of Rights" to protect the interests of America's 25,000,000 car owners and 40,000,000 drivers.

"Our objective through this measure," said Thomas P. Henry, president of the AAA, "is to assure full and free use of the automobile with maximum safety and economy."

He condemned such proposals as governors for automobiles, compulsory finger printing of motorists, a poll tax on motor car owners to create safety funds, and wholesale lighting of rural highways without regard for costs or benefits.

"Let us not permit either self-seeking special interests, or well-intentioned, long-haired enthusiasts to hamstring the march of motor progress, much less drive us back to the horse and buggy days," Mr. Henry declared.

The nine-point legislative program adopted includes: roads suitable for needs of modern motor traffic; fair budgeting of road costs; free passage at state borders; proper sanitation and appropriate roadside development; opposition to federal and local encroachment in the motor tax field; measuring motor vehicle taxation by average motorist's ability to pay, not by total highway requirements; proper distribution of motor tax revenue among various local jurisdictions; stopping diversion of funds derived from motor and gasoline taxes, and setting up semi-official "Safety Authorities" for the nation and in each state.

# Texas December Allowable Output At Highest Peak

TULSA, Nov. 28.—The unpredictable Texas Railroad Commission has again brought confusion to all the guessers.

For November, it set a basic allowable production figure for the oil fields of the state a few barrels under the U. S. Bureau of Mines recommended quota, resulting in a reduction of more than 100,000 barrels daily. On Nov. 27 it announced its Dec. 1 allowable. It is 56,470 barrels higher than the bureau recommended as the daily average for December.

The new figure, highest starting amount for any month in Texas history, is 1,201,670 barrels daily. It is expected to increase by the end of December by 45,000 to 50,000 barrels because of new wells. The allowable, therefore, at the end of December should be about 1,250,000 barrels. If special raises in allowables are granted during the month for pools where operators and buyers want to take more oil, the figure would be increased still more. These special increases have been given for various pools in the state from time to time.

The basic allowable for the state, effective Nov. 1, was 1,109,260 barrels, daily, 40 barrels under the Bureau of Mines recommendation. On Nov. 14 special increases of more than 18,000 barrels were made and with new wells completed and given their allotments, the states' total allowed production at this time is about 1,168,000 barrels. The Bureau of Mines recommendation for December was 1,145,200 barrels daily.

Col. Ernest O. Thompson, chairman of the railroad commission, said the increase was made because of demand for oil and stated that it had been shown to the commission the oil could be produced without waste. He said storage figures showed that only 40 to 50 days' supply of crude is on hand in the country. He asserted that of the 290,000,000 barrels of stocks, only about 90,000,000 barrels are available for immediate refinery use. The rest of the supply he disposed of as follows: 50,000,000 in pipelines, 6,000,000 barrels in tankers, 50,000,000 barrels in working stocks, 27,000,000 barrels in Wyoming with no pipeline outlet available for quick movement to refining points, 27,000,000 with high sulphur content and 40,000,000 barrels of basic sediment and water.

The increases in Texas allowable were fairly well distributed. The East Texas field, prorated on percentage-of-potential basis, was left unchanged at 2.32 per cent and on Dec. 1 will be producing about 445,000 barrels daily.

The Oklahoma and Kansas commissions were expected to fix allowables for December conforming to the Bureau of Mines estimates of demand, 567,000 and 155,900 barrels respectively.

# 7000 Bbls. More For California

LOS ANGELES, Nov. 27.—Production of crude from California fields for December has been set at 551,000 barrels daily by the Central Committee of Oil Operators. This is a recommended increase of 7000 barrels daily over the November quota and compares with a 553,000-barrel figure suggested by the Bureau of Mines.

Committee chairman, Vander Leck, pointed out that two objectives were sought by the increase—closer alignment with the Bureau of Mines figures averaged for the year and more efficient curtailment.

The December quota, he said in reply to objections raised by some committee members, will bring the Central Committee quota, when averaged for the year, to approximately 500 barrels daily over that of the Bureau.

While more effective curtailment is the principal objective, the relatively close average achieved by the allocation committee, in spite of the fact that the 544,000-barrel quota was determined last Spring when it was impossible to foresee the surprising increase in demand, convinced the committee that slightly higher production was warranted.

The decision on the 7000-barrel a day increase for December was made, therefore, notwithstanding the fact that November crude runs during the first twenty-one days averaged more than 590,000 barrels daily.

The possibility was admitted that there might be a slackening in curtailment effort as the result of such an increase, but the majority of operators, it was believed, would interpret the move in the right direction. Most of the increase will be used to take care of new well production. The balance is to be distributed by the allocation committee to relieve pressure in certain fields or areas where acute problems have arisen from too tight application of curtailment orders.

# Okla. Allowable To Be Increased

*By Telegraph*

OKLAHOMA CITY, Dec. 1.—The Oklahoma Corporation Commission is calling a special hearing for Dec. 11 to decide on an increase in the state's allowable production for the balance of the month. Chairman Homer Hoch, of the Kansas Corporation Commission, said today the December allowable for that state would be about 5 per cent over the Bureau of Mines recommended figure.

The actions of these two state agencies are the result of the order issued by the Texas Railroad Commission which exceeds the federal bureau's recommendation by 56,000 barrels.

A spirited debate behind closed doors here yesterday ended with Chairman Thompson, of the Texas commission, maintaining his position on the increased demand for Texas oil, whereupon the other states said, in effect, if Texas can raise we can too. The increase for the three states over the bureau's recommended figure will be about 92,000 barrels.

The Oklahoma commission thinks the November order will remain in force until the new one is written following the hearing Dec. 11, but some doubt that a valid order will be in force for the next 11 days.

# Two Objectors To Merger Plan

LOS ANGELES, Nov. 27. — Approval of the reorganization plan for merging properties of the Richfield Oil Co. and its subsidiaries with the Rio Grande Oil Co., was expressed by B. P. Calhoun, representing the Sabath congressional committee.

This expression was made at the hearing on "fairness" of the proposed reorganization plan now before a Los Angeles federal court.

In giving his opinion of the "plan", Calhoun said:

"The court has only one of two alternatives. It must choose between liquidation or reorganization. While we do not agree in full with the details of the present reorganization plan, we greatly prefer it to liquidation," Calhoun said.

"The plan should be accepted with such modifications as can be made without a resubmission to creditors and bondholders. Any such resubmission might be fatal to the plan."

So far, there have been only two objectors to the plan of reorganization now up for consideration. South Basin Oil Co., a creditor, has sought the right to intervene. This was granted the past week with certain restrictions. South Basin has objected to what it considers an excessive amount of stock to be delivered to the Rio Grande Oil Co. in exchange for its properties. The other objector is a bondholder.

Wm. C. McDuffie, trustee of Richfield and Pan American, a subsidiary, testified that "all conditions considered" he believed the proposed plan was both fair and equitable. He thought the allocation of 865,000 shares of the new company's stock to Rio Grande would be reasonable.

He explained that by "conditions" he meant the need for early termination of the receivership, the failure of any group to present a better plan, the difficulty of operating the company without additional working capital, and the absence of a qualified bidder when the properties were offered for sale by the court.

Of considerable interest in regard to operation of the properties under a receiver appointed by the court, was the statement from the bench by Federal Judge James, that if the proposed plan should fail to go through, the properties must be sold immediately, since the court will no longer operate the properties.

In addition to merging Richfield with Rio Grande, the present plan proposed to put $15,500,000 to $20,000,000 new capital into the reorganized concern. The first mentioned amount had been underwritten by investment bankers in August. The plan was initiated last March when Cities Service transferred its holdings of Richfield and Pan American to Rio Grande Oil Co., a subsidiary of Consolidated, receiving in return a half interest in Rio Grande.

## *La. Gas Ruling Delayed*

*By Teletype*

BATON ROUGE, La., Nov. 30. —Producers in the Rodessa, La., field will have to wait another "week or two" before new gas conservation regulations are released by the Louisiana Conservation Commission.

In the meantime, Louisiana's governor and conservation commissioner are considering the proposals submitted at a special hearing last week.

Until new regulations are announced, wells in the Rodessa field will operate under temporary regulations issued some time ago.

# Washington from the Crown Block

By A. M. PETTY, N. P. N. Staff Writer

### W-H LAW CONFUSION

One reason for confusion over the Walsh-Healey government contracts law is that most anyone going down to the Labor Department usually comes back with the ruling he wants—but the "lil' feller" a thousand miles from Washington can't afford the trip. Some rulings are oral; few have been published. But all sorts of interpretations have been gossiped around.

### R-P LAW NO EXCUSE

Frank Healy, ex-labor department official and now Treasury Procurement Division's adviser on the W-H Law, spends much time explaining that his name has only one "e", hence he is not co-author of the government contracts law.

Another of Healy's duties is explaining to bidders that the Robinson-Patman anti-discrimination law doesn't apply to government purchases—or at least is no excuse for not giving Uncle Sam a lower price than other buyers.

### STAGE SET FOR ICKES

The Texas Railroad Commission has again upped the Bureau of Mines' estimate of Texas oil production—Oklahoma and Kansas are sore and threatening. The stage is set for newsmen to ask Secretary Ickes again for comment on the fate of the Interstate Oil Compact and hear once more Ickes' stereotyped "I told you so." Given any sort of opening at his next press conference, Ickes will probably declare that federal oil control is the only solution.

### ANOTHER HEADACHE FOR TPD

The Treasury Procurement Division may take over the job of contracting for gasoline needs of the government's army of field men. Adding service station contracts will increase the Procurement Division's worries; difficulties over courtesy cards and tax exemption certificates are being further complicated by spread of the so-called Iowa Plan. The TPD now buys practically all the federal gasoline requirements for tank car and tank wagon delivery.

### JITTERS

Chairman Winant's first big-time press conference at the Social Security Board this week left newspapermen jittery. For nearly an hour, the lanky New Englander squirmed in his chair and tossed his black mane from his eyes as he dodged around pertinent questions. He wouldn't say yes and he wouldn't say no. His nervousness made the 40 newsmen atending more uncomfortable than he was.

Perhaps Winant had wind of newsmen's complaints about the difficulty of getting information from his director of information.

Pampered by most governmental agencies, the correspondents were angered when their 'phone calls were routed to some fourth assistant female secretary who stalled with offers to arrange an appointment for next week with the information director. An indignation committee was being drafted when announcement came of appointment of a well-liked local newsman as the board's press agent.

Incidentally, the board was plunged into the Alphabet Soup this week by disclosure of an order forbidding employes to call the Social Security Act or Social Security Board by their initials. If newsmen needeed any prodding to follow the New Deal custom of abbreviating names, the board's order did it. So, SSA and SSB will be used, despite the board's wishes. Not since the Shipping Board changed its name (and initials), have newspapermen had such fun with abbreviations.

### NO BLOODSHED

Around the table at the Federal Trade Commission this week, the Arnott-Hadlick-Schuh code committee met face to face—but no casualties were reported. Judge McCorkle of the commission was referee. A return engagement is scheduled next week.

The commission officials don't like the word "code" applied to their trade practice conference agreements. But "code" suits the headline writer.

### TWO STRINGS TO ITS BOW

Like 129,999,999 other Americans, Federal Trade Commission officials don't know what tune President Roosevelt will call when Congress meets in January. But they are fitting at least two strings to their fiddle.

If voluntary industrial agreements are suggested by the President as a means of reviving principles of NIRA, the FTC can proffer its code-making machinery, pointing to the growing number of industries seeking trade practice agreements.

Should strict enforcement of the anti-trust laws be the theme, the FTC can cite complaints the commission has issued in recent months against alleged price-fixing arrangements in a number of industries. It matters not that many defendants are claiming they were only carrying on a stabilization program begun under NIRA—the FTC never had any great love for the Blue Eagle.

With 30 or 40 letters pouring in daily, the FTC can also boast of widespread interest in the Robinson-Patman law. Handicapped by no appropriation for extra help to administer the new law, the commission has not acted on as many complaints as it would like; but there are more simmering on the fire which may break into print soon. Given a larger force, as requested, the FTC could turn loose a flood of complaints.

The bogey of all federal regulatory laws—necessity of proving "interstate commerce" is involved—has caused the FTC to proceed slowly, taking only what it regards as clear-cut cases. With a larger legal staff, it will come back later to borderline cases.

Independent oil jobbers intend to press their complaints about commercial discount policies of the major oil companies, contending that the so-called national accounts plan appears to violate the R-P law.

Major companies have reason to believe that the FTC is looking into the question of allowing larger margins to undivided dealers than to dealers selling more than one brand of gasoline.

### PETTENGILL TREADS ON THEIR TOES

Russell Brown, general counsel for the Independent Petroleum Association of America (producers), didn't like Congressman Pettengill's remarks about the Thomas-Disney oil bill at the American Petroleum Institute convention. In his news letter, Brown defends the bill from charges of "regimentation" and "collectivism", and delivers several deftly-worded pokes at Pettengill, a member of the congressional Cole Oil Investigating Committee and author of the book "Hot Oil".

# *N. Carolina Urged To Enlarge Duties of the Oil Inspectors*

RALEIGH, N. C., Nov. 27.—A port of entry law and new definition of gasoline are among changes recommended in North Carolina tax and inspection laws by H. L. Shankle of the state inspection department.

Mr. Shankle has asked the state attorney general to draft the necessary bills for introduction when the North Carolina legislature meets in January.

He urged the establishment of a state gasoline and oil inspection board empowered to adopt standards for various grades of gasoline and prescribe labels, stating the grade, which every filling station pump would have to display, so that "the public would know what it is buying."

Additional field men should be allotted to his department to inspect tanks and pumps, according to Shankle. He recently stated that more than $900,000 was collected in gasoline and oil inspection fees last year but only about $50,000 was spent for this purpose, the balance going into the general revenue fund.

He also suggests all filling stations be required to keep records for at least one year, showing their sources of supply.

A port of entry law, similar to those of Kansas and Nebraska, requiring all tank trucks entering or leaving North Carolina to pass through only designated gateways for inspection. is recommended by Shankle. Similar "ports" would be established on railroad lines.

The new definition of motor fuel Shankle proposes is substantially the same as that contained in the Illinois law.

### Ethyl's Plan Studied

TULSA, Nov. 28.—Proposed action of the Ethyl Gasoline Corp. in changing the method of determining the octane rating of gasoline will be considered by directors of the Western Petroleum Refiners Association here Dec. 3.

A date and place for the annual meeting will also be set, A. V. Bourque, secretary-treasurer, announced. At this meeting, which is to be sometime in March or April, there will be special program features in celebration of the association's 25th anniversary.

# Bulk Plant Sales in 1935 Gain 50% Over 1933

WASHINGTON, Nov. 30

Sales volume of bulk plants in 1935 totaled $2,679,518,000, an increase of 50 per cent over 1933, when the total was $1,785,513,000, according to the Census Bureau's preliminary report on wholesale trade in the U. S.

Census takers found 26,977 bulk tank stations last year as compared with 26,174 reported for 1933.

The number of bulk plants reported by the Census Bureau is likely to be regarded by the industry as too low. For example, Minnesota tax lists for 1935 show nearly 1800 bulk tank stations in that state importing gasoline, while the census report lists only 1256. Census officials offered several explanations.

As the census report concerns establishments where more than half the sales are at wholesale for resale, bulk plants selling mostly to consumers have been excluded. For this reason, many bulk plants, particularly in the middle west, which sell mostly to farmers by tank truck delivery, were not counted. Quite a few bulk plants of oil co-operatives were likewise excluded, it was explained.

Trackside stations and other tank car buyers, who sell mostly at retail, were not listed as "bulk tank stations" in the census report, even though they have storage facilities and pay gasoline taxes as importers.

New York had the largest sales volume credited to bulk plants, amounting to $238,989,000, but was closely pressed by California with $230,243,000. Pennsylvania was third with $162,327,000 and Illinois, fourth, $158,152,000. Five other states exceeded the $100,000,000 mark. In order, they were: Ohio, Michigan, Texas, Massachusetts and New Jersey.

Texas had by far the largest number of bulk tank stations (according to the Census Bureau's definition) with 2161. Ranking next in order, were: Iowa, 1478; Kansas, 1473; Illinois, 1414; and California, 1346.

Figures tabulated herewith, showing sales and number of bulk plants, were compiled from preliminary reports and are subject to correction. Already the Census Bureau has picked up an additional 47 bulk plants with sales of $11,323,000, since the preliminary reports were issued. These were included in the national totals but so far the states where the additions were made have not been announced.

Sales volume of bulk plants for the U. S. showed an increase of 50 per cent between 1933 and 1935. This compares favorably with the 41 per cent increase for wholesale trade in general. Only sales by manufacturers' sales offices showed a larger increase — 56 per cent.

In every state, the sales volume of bulk plants increased during the two-year period. Utah was first with an astonishing gain of 122 per cent, followed by Delaware with an even 100 per cent increase, and Florida, 96 per cent.

The District of Columbia, alone, showed a decrease — 2 per cent. But this may be explained by removal of several bulk plants to nearby Virginia and Maryland.

Total sales of bulk plants exceeded by nearly 40 per cent the $1,961,780,000 reported earlier by the Census Bureau as the sales volume of "filling stations" in 1935.

Explaining this, census officials pointed out that their definition of "filling station" excludes all retail outlets, such as curb pumps, parking lots, garages, tire stores and the like, where sales of gasoline and oil make up less than half the total business.

Sales figures for bulk plants include some duplications, it was pointed out; for instance, in cases where a jobber or broker sells to another jobber. Exports and sales to large industrial consumers are also included in totals for some bulk plants.

Later, the Census Bureau expects to eliminate duplications, reporting on sales by types of customers.

Besides reporting on bulk tank stations, the wholesale census also gives data (not included in bulk plant figures) on several other types of wholesalers and resellers handling petroleum products.

For instance, the report shows 679 resellers of petroleum products listed under the heading "full-service or limited function wholesalers". Their sales totaled $132,518,000 in 1935, the report showed. Census officials explained that these were mostly lubricating oil and grease jobbers.

The report also lists 107 "agents and brokers" selling $66,811,000 of petroleum products in 1935, which was a decrease of 23 per cent from the 1933 census.

Also not included in the bulk plant total were 56 refinery sales offices with stocks, which could not be classified as "bulk tank stations"; their sales totaled $18,175,000. Twenty-six refinery sales offices, without stocks, had sales of $51,720,000, according to the report.

Figures for 1935 on bulk plants and sales in principal cities were also given in the wholesale report. New York, with 61 bulk plants, had the largest sales, $81,267,000; Chicago, second, had $72,631,000 for 76 bulk plants, the report said. Baltimore had 144 bulk plants but ranked sixth in sales, $35,880,000.

**Sales Volume of Bulk Plants in Principal Cities — 1935.**
**(U. S. Dept. of Commerce Preliminary Wholesale Census)**

| City | Number of Plants | Sales Volume, 1935 |
|---|---|---|
| New York City | 61 | $81,267,000 |
| Chicago | 76 | 72,631,000 |
| Los Angeles | 64 | 47,633,000 |
| Detroit | 38 | 44,501,000 |
| Philadelphia | 31 | 36,808,000 |
| Baltimore | 144 | 35,880,000 |
| Boston | 20 | 28,657,000 |
| Cleveland | 40 | 26,650,000 |
| Milwaukee | 32 | 15,277,000 |
| St. Louis | 36 | 13,359,000 |
| Pittsburgh | 16 | 12,553,000 |
| Buffalo | 19 | 10,910,000 |

## *Inventors Honored*

CHICAGO, Nov. 30.—Dr. J. C. Morrell, associate director of research, Universal Oil Products Co., was one of a group of 20 inventors who were guests of honor at the dinner which closed the centennial celebration of the American Patent System, in Washington, Nov. 23.

Names of candidates for the honor of representing invention in the various branches of American industry were submitted by appropriate divisions of the U. S. patent office. Mr. Morrell was named for the oil industry.

**Number of Bulk Plants and Sales, By States, 1935-1933**

**(From U. S. Dept. of Commerce Preliminary Wholesale Census)**

| State | Bulk Plant Sales (Add 000) 1935 | 1933 | Percentage of Increase in Sales 1933 to 1935 | Number of Bulk Plants 1935 | 1933 |
|---|---|---|---|---|---|
| Alabama | $ 27,893 | $ 19,829 | 41% | 370 | 417 |
| Arizona | 13,284 | 10,789 | 23% | 168 | 173 |
| Arkansas | 22,190 | 16,021 | 39% | 494 | 512 |
| California | 230,243 | 169,067 | 36% | 1346 | 1004 |
| Colorado | 25,530 | 17,237 | 48% | 481 | 452 |
| Connecticut | 42,119 | 28,702 | 47% | 120 | 105 |
| Delaware | 6,764 | 3,387 | 100% | 34 | 36 |
| Florida | 59,980 | 30,625 | 96% | 498 | 470 |
| Georgia | 43,278 | 25,235 | 71% | 529 | 528 |
| Indiana | 64,880 | 41,275 | 57% | 943 | 920 |
| Idaho | 15,152 | 8,978 | 69% | 262 | 242 |
| Illinois | 158,152 | 108,908 | 45% | 1414 | 1332 |
| Iowa | 55,247 | 34,538 | 60% | 1478 | 1531 |
| Kansas | 43,370 | 26,862 | 61% | 1473 | 1533 |
| Kentucky | 33,091 | 18,563 | 78% | 306 | 313 |
| Louisiana | 38,552 | 26,856 | 44% | 476 | 484 |
| Maine | 20,482 | 17,326 | 18% | 149 | 150 |
| Maryland | 35,880 | 33,433 | 7% | 144 | 145 |
| Massachusetts | 113,054 | 78,648 | 44% | 236 | 207 |
| Michigan | 123,182 | 74,439 | 65% | 902 | 848 |
| Minnesota | 61,542 | 38,971 | 58% | 1256 | 1280 |
| Mississippi | 23,316 | 14,289 | 63% | 424 | 413 |
| Missouri | 64,866 | 44,825 | 45% | 1167 | 1135 |
| Montana | 16,686 | 11,612 | 44% | 433 | 431 |
| Nebraska | 25,526 | 16,106 | 58% | 733 | 784 |
| New Hampshire | 12,234 | 8,068 | 52% | 94 | 75 |
| New Jersey | 108,658 | 88,044 | 23% | 223 | 204 |
| New Mexico | 7,722 | 7,310 | 6% | 168 | 229 |
| New York | 238,989 | 166,300 | 44% | 828 | 663 |
| Nevada | 5,134 | 4,194 | 22% | 66 | 70 |
| North Dakota | 15,010 | 12,419 | 21% | 590 | 688 |
| North Carolina | 49,770 | 36,993 | 35% | 509 | 481 |
| Ohio | 139,927 | 80,107 | 75% | 808 | 713 |
| Oklahoma | 38,781 | 26,223 | 48% | 1003 | 991 |
| Oregon | 41,964 | 28,480 | 47% | 319 | 279 |
| Pennsylvania | 162,327 | 104,340 | 56% | 756 | 739 |
| Rhode Island | 19,708 | 11,758 | 68% | 34 | 25 |
| South Carolina | 28,124 | 17,645 | 59% | 298 | 278 |
| South Dakota | 15,380 | 11,115 | 38% | 507 | 506 |
| Tennessee | 37,588 | 24,666 | 52% | 285 | 266 |
| Texas | 122,879 | 65,005 | 89% | 1261 | 2174 |
| Utah | 19,261 | 8,689 | 122% | 144 | 141 |
| Vermont | 9,469 | 5,995 | 92% | 92 | 76 |
| Virginia | 56,910 | 37,393 | 52% | 393 | 399 |
| Washington | 70,685 | 44,742 | 58% | 534 | 439 |
| West Virginia | 20,939 | 18,368 | 14% | 165 | 169 |
| Wisconsin | 65,037 | 45,081 | 44% | 957 | 963 |
| Wyoming | 7,189 | 5,587 | 29% | 152 | 155 |
| Dist. of Columbia | 10,251 | 10,470 | *2% | 8 | 6 |
| †Undistributed | 11,323 | ..... | .... | 47 | ... |
| TOTAL, U. S. | $2,679,518 | $1,785,513 | 50% | 26,977 | 26,174 |

*Decrease.
†Corrections made since preliminary reports were issued.

# 3% DEDUCTION FOR B. S. IS ATTACKED IN COURTS

WASHINGTON, Nov. 28.—Legality of the long-standing practice of crude oil purchasing companies to deduct from gross production of oil because of "dirt and sediment," in measuring oil for purchase or transportation, will be tested in suits filed on behalf of the Osage Tribe of Indians in Oklahoma, the Justice Department announced today.

At the request of Secretary of the Interior Ickes, civil suits have been filed against a number of oil companies and pipelines in the federal court for northern district of Oklahoma, the announcement said. Similar suits are being prepared against other companies and pipelines.

"Purpose of the suits," according to Harry Blair, assistant attorney general, who will handle the cases, "is to have the courts declare what is the proper deduction, if any, for bottom sediment and water under terms of the lease. It is a question of interpretation. The court may hold that no deduction should be permitted or again it may hold that only the actual amount of the 'B. S. and W.' should be deducted."

Claims are said to extend back some 20 years and involve several million dollars. The matter has long been in dispute. The announcement pointed out that the Justice Department has decided litigation in court will be necessary to settle the issue.

"One group of suits is brought," it was stated, "against purchasing companies, claiming that, when they measured the oil purchased they deducted three per cent from the amount of oil actually received (supposedly on account of 'dirt and sediment'), when, in fact, no such deduction had been or could be lawfully authorized from the royalty oil belonging to the Indians.

"Another group of suits is brought against the pipe line companies, claiming that, in accordance with practices they adopted for measuring oil received for pipe line transportation, they reported less than the amount of oil actually received. Recovery of the value of this 'overage' is sought," the announcement added.

Suits have been filed, according to the announcement, against Carter Oil Co., Sinclair Prairie Oil Co., and Stanolind Oil Co., purchasers of oil, and against the Oklahoma Pipe Line Co., Stanolind Pipe Line Co., and Sinclair Prairie Pipe Line Co. as transporters.

Similar bills are being prepared to be filed "in due course," the announcement said, against other purchasing companies and pipeline companies, including the following: Phillips Petroleum Co., Continental Oil Co., Skelly Oil Co., Mid-Continent Petroleum Corp., Empire Oil & Refining Co., Johnson Oil & Refining Co., The Texas Corp., Gypsy Oil Co., Barnsdall Co., Gulf Pipe Line Co., Empire Pipe Line Co. and Texas Pipe Line Co.

In addition to Blair, the Justice Department has also retained Donald R. Richberg, former general counsel for NRA, to try the suits. C. E. Bailey, U. S. District attorney, will also have a hand.

# Gives Trailer In 'Gas' Contest

LOUISVILLE, Ky., Nov. 30.—The tourist trailer has now officially come into its own, as proven by the fact that one is to be given away in a prize contest January 15, along with a Packard car to pull it, by the Spur Distributing Co., of Nashville, Tenn.

The Spur company, operating 189 service stations in 19 states from New York to New Orleans, announced its contest Nov. 24 in Louisville newspaper advertising. The plan is to be carried out only in Louisville, and in Jeffersonville and New Albany, Ind., for the present.

In the newspaper advertisement announcing the contest is carried a map of the eastern U. S. containing dots, which represent the cities in which Spur stations are located. The first rule of the contest requires the entrant count the dots and write the number in the coupon included in the ad.

Next, in 30 words or less, he must complete the statement—"I Like To Trade At Spur Stations Because——". The contestant must then take his entry to a Spur station in one of the above-mentioned towns and buy five gallons or more of Spur gasoline, in return for which the attendant will deposit the entry in an official contest box. One statement may be entered for each five gallons of the company's gasoline purchased and additional blanks may be obtained from Spur stations in those three localities.

The contest rules state that the count of the number of Spur cities on the map must be absolutely correct before the entry will be considered eligible for the prize.

The contest closes Jan. 9 and the winner will be presented with the car and trailer on Jan. 15. In addition, the winner will receive a credit card entitling the owner to 100 gallons of gasoline at any Spur station in the company's 19 marketing states.

**DAILY AVERAGE PRODUCTION IMPORTANT DISTRICTS**

**American Petroleum Inst. Figures**

| | Week Ended Nov. 28 Barrels | Nov. 21 Barrels |
|---|---|---|
| Oklahoma City | 143,500 | 162,300 |
| Total Okla.... | 568,100 | 593,450 |
| East Texas ... | 443,150 | 442,400 |
| Total Texas... | 1,156,700 | 1,149,850 |
| Rodessa ..... | 56,700 | 55,800 |
| Total La. .... | 135,400 | 233,650 |
| California ... | 566,100 | 592,900 |
| E. of Rockies. | 2,444,550 | 2,468,050 |
| Total U. S.... | 3,010,650 | 3,060,950 |
| Crude imports. | 65,280 | 103,140 |
| Tot. new sup'ly | 3,075,930 | 3,164,090 |

# B. S. Deduction Was Upheld In Oklahoma Suit on Taxes

*By Teletype*
NPN News Bureau

TULSA, Nov. 30.—Suits filed in federal court here Nov. 28, by the U. S. government, against purchasers of crude oil produced on Osage Indian lands in Oklahoma constitute another step in the controversy which has existed between purchasers and the Interior Department for more than three years over the three per cent deduction for "B. S. and W."

The Interior Department July 31, 1933, issued an order calling the royalty interest to be paid on the 100 per cent basis, less actual impurities. According to the Osage Indian agency at Pawhuska this order was complied with until Oct. 24, 1933, when purchasers, in posting their price schedules, added the following paragraph:

"The schedule of prices posted above is based upon the use of 97% tank tables in computing the volume of oil taken. If a different tank table is made use of, the above schedule of prices will be decreased or increased in the proportion that such tank table is more or less than 97%."

The controversy finally reached the stage of a hearing in Washington, Oct. 29, 1935, before Assistant Secretary Chapman and Solicitor Nathan Margold of the Interior Department. The issue presented there was whether or not the posted price based on the 97 per cent tank tables constituted "the highest market price for oil of like gravity and quality in the Mid-Continent field on the day of sale or removal," as provided by the Osage Indian lease.

The government has placed itself, meanwhile, in a unique position, it has been pointed out in some quarters here. While acting as guardian for the Osage tribe, the government, through all the years the deduction of three per cent for "B. S. and W." has been used, has approved all orders, leases and payments. Now the government has gone into court to question the legality of its own acts.

There is on record in the federal court for the western district of Oklahoma a decision which probably will have considerable bearing on the present case, particularly as a citation. The case was that of the Stanolind Crude Oil Purchasing Corp., against members of the Oklahoma Tax Commission. The latter had attempted to collect the gross production tax on the three per cent which had been deducted for "B. S. and W."

Federal Judge Vaught, presiding, ruled in favor of the Stanolind corporation, declaring it was entitled to a degree cancelling the invalid assessment. Of particular importance was that part of the decision which stated, in effect, that the custom of deducting three per cent was one of long standing; that the gross production laws had been changed several times by the legislature with no change in this custom, which indicated the legislature acquiesced in the continued operation of such a custom, and that "by reason of the long established custom . . . and the recognition thereof at all times by the state auditors of Oklahoma and for more than 16 months by the Oklahoma Tax Commission, complainant was justified in making returns heretofore filed by it and in paying the gross production tax pursuant thereto." The tax commission accepted the decision without an appeal.

# Cummings Parries Oil Case Queries

WASHINGTON, Nov. 26.—Reminded he had promised "more light on the Madison oil case within a week," Attorney General Cummings smilingly parried newspapermen's questions Nov. 25, saying, "I was a trifle indiscreet in my observation last week."

Cummings appeared unwilling to discuss the federal grand jury investigation at Madison, Wis., which has resulted in indictments charging oil companies and individuals with violations of the anti-trust laws.

Federal Judge Stone at Madison, it is reported, has ordered the grand jury impaneled for another term beginning Dec. 1. The present group automatically becomes a special grand jury to complete investigations begun, but not completed, in the present term, it is understood. The grand jury's new term can last until Nov. 30, 1937.

## *Lower Rates in South Granted 2 Roads*

WASHINGTON, Dec. 1.—The Missouri Pacific, New Orleans, Texas and Mexico and their connecting lines have been granted authority by the Interstate Commerce Commission to establish and maintain new and lower rates on petroleum products in carloads from Wood River and Lawrenceville, Ill., districts to Memphis, Tenn., Helena, Ark., Natchez, Miss., and Baton Rouge and New Orleans, La.

In applying for the authority, the rails pointed out that their present rates on petroleum products between these points were higher than those established in 1932 by the ICC for routes operating between the same points but east of the Mississippi. The applicants' routes lies west of the Mississippi.

Newly authorized rates correspond to those granted in 1932 for the east-of-the-river roads, without changing the rates to intermediate points.

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*By Teletype*

TULSA, Dec. 1.—Joe T. Dickerson, manager of the Shell Petroleum Corp's legal department in the Mid-Continent, has been promoted to head of the general legal department of the corporation at St. Louis and will assume his new duties Jan. 1. George W. Cunningham, present head of the litigation division in the Tulsa office, will succeed Dickerson.

## *Removal Hearing Jan. 2*

TULSA, Nov. 28. — Removal hearings for six oil men in Tulsa and vicinity, appearing in the first indictment, on charges of conspiracy returned by a federal grand jury at Madison, Wis. have been set for Jan. 26, by U. S. Commissioner Smith here.

Those who are scheduled to appear are: O. J. Tuttle, Empire Refineries, Inc.; Dewey Chamberlain, Pure Oil Co.; Ira Smith, Standard Oil Co. of Indiana; E. B. Reeser, Barnsdall Oil Corp.; A. V. Bourque, Western Petroleum Refiners Association; all of Tulsa, and Frank Phillips, Phillips Petroleum Co., Bartlesville.

## *Anti-Trust Suit Arraignment*

*By Teletype*
N. P. N. News Bureau

MADISON, Wis., Nov. 30.—Arraignments on the first indictment returned by the federal grand jury charging anti-trust law violations in connection with tank car gasoline purchases have been postponed from Dec. 1 to Dec. 7, by Federal Judge Patrick T. Stone.

The grand jury which has been investigating petroleum marketing practices since May 4, reconvened in Madison today after recessing Nov. 13. The present regular grand jury has been impaneled as a special grand jury by the court for another term to complete unfinished investigations.

The application of defendants for postponement of the Dec. 1 arraignment date was consented to by government officials and Judge Stone postponed the date. Of the 58 individuals named in the indictment only a part will appear for arraignment Dec. 7. A number are contesting removal to the jurisdiction of the Madison court.

## *Test 'Gas' Samples In N. Y. Probe*

BUFFALO, Dec. 1.—A change in the New York state law which sets up minimum requirements for gasoline is likely to result from the investigation of the oil industry by a joint legislative committee; also a new law giving minimum requirements for motor oils which can be sold in the state.

The present statute giving gasoline specifications was passed in 1929 and contains no test for octane rating and the distillation range given was taken from the federal specifications for motor fuel as of that time, which have since been considerably changed.

Harold B. Ehrlich, assemblyman for the 2nd district of Erie county, chairman of the legislative investigating committee, believes the law should define the characteristics of the lowest grades of gasoline and oil which can be sold in the state.

Under the committee's direction some 150 samples of motor fuels have been gathered around the state, from tank trucks, at trackage stations, dealers' stations, oil company stations and so on. These are now being analyzed by the state chemist's office. They are being tested as to distillation range and octane number particularly.

A large number of samples of motor oils have also been gathered and these will be analyzed according to standard tests.

The committee has finished a questionnaire containing 91 questions, which is to be sent to all individuals and oil companies engaged in any branch of the oil business in the state. The lists of names to which it will be sent have been taken from the secretary of state's office, the tax collection offices and so on. The questions go particularly into prices and margins.

Public hearings of the committee will not be held until the information obtained from the questionnaire has been studied.

The next meeting of the nine members of the investigating committee will be held soon in Buffalo, where the committee maintains permanent offices in the Ellicott Square Bldg. It was given an appropriation of $15,000 by the state legislature a year ago for the investigation, which was inspired by the belief the public is paying more for gasoline than it should.

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**Barker Honored**

ST. LOUIS—Carl Barker, director of public relations for Shell Petroleum Corp., has been elected executive vice-president of the Missouri state Chamber of Commerce. He continues as a director. As the executive vice-president Mr. Barker will be chairman of the chamber's executive committee.

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WASHINGTON, Nov. 30.—The Interstate Commerce Commission has authorized the Pennsylvania railroad to reduce, effective Dec. 10, freight rates on naphtha from 21 to 19 cents per cwt. in tank car loads to Scranton, Pa., from Bayonne and other New Jersey points. Truck competition was ascribed as the reason.

The Pennsylvania had previously published, effective Dec. 10, rates considerably less than 19 cents but now says this was an "error." The 19-cent rate is the same as from Philadelphia to Scranton.

# Warrants Served On Tulsa Oil Men

*By Teletype*
NPN News Bureau

TULSA, Dec. 1.—Warrants for the 11 oil men in Tulsa and vicinity named in the second general conspiracy indictment returned Nov. 6 by the federal grand jury at Madison, Wis., were issued here Dec. 1, by U. S. Commissioner Smith. These men were expected to appear some time this week and make bonds of $5000 each pending removal hearings.

Named in the warrants are E. B. Reeser, Barnsdall Oil Corp.; R. W. McDowell, Mid-Continent Petroleum Corp.; O. J. Tuttle, Empire Refineries, Inc.; L. B. McCammon, Ohio Oil Co.; W. G. Skelly, Skelly Oil Co.; and J. W. Warner, Tide Water Oil Corp., all of Tulsa; H. A. Gardner, A. M. Hughes and Frank Phillips, Phillips Petroleum Co., Bartlesville, and W. H. Merritt and H. D. Frueauff, Cities Service Oil Co.

While no date has been set for removal hearings, it has been indicated that these men will be instructed to appear Jan. 26, 1937, when oil company executives named in the first indictment are to appear before Commissioner Smith for removal hearings.

# 2nd Indictment Warrants Issued

*By Teletype*
NPN News Bureau

CHICAGO, Nov. 30.—Warrants to appear for a removal hearing for nine Chicago oil men indicted by the Madison federal grand jury which has been investigating oil marketing, have been issued by U. S. Commissioner Edwin K. Walker. While no date has been set for the hearing, it was expected that indicted oil officials will appear early this week.

The indictment, returned Nov. 6, was the second charge of violation of anti-trust laws handed down by the Madison grand jury and names 46 individuals and 24 major oil companies as defendants.

Chicagoans for whom warrants were issued are: Bryan S. Reid, Socony-Vacuum Oil Co.; S. B. Wright, The Texas Co.; Allan Jackson, Amos Ball and Hiram Lewis, Standard Oil Co. of Indiana; Henry M. Dawes, C. B. Watson, R. H. McElroy, Jr., and G. C. Morris, Pure Oil Co.

# Mid-Continent Skyline

By LAWRENCE E. SMITH
N. P. N. Staff Writer

TULSA, Nov. 28

Every little while the East Texas "hot" oil which is in storage in that field comes back into the conversation. Lon A. Smith, member of the Texas Railroad Commission, brought up the topic again this week by remarking within hearing of the press that a New York broker wanted a million barrels or so for export shipment. A day or so later he said he had a telegram from a Los Angeles man who wanted information as to movement of 45,000,000 barrels of Texas oil. It was not revealed whether the Los Angeles man was talking about East Texas oil.

Commissioner Smith seemed to want to do something about these inquiries. He conferred with Sen. Tom Connally, who introduced in Congress the regulatory bill bearing his name. It is this law that prohibits movement of illegally produced oil into interstate and foreign commerce.

Smith then quoted the senator as saying that the federal act does not apply to oil billed to foreign ports. While there has been no judicial interpretation of this point, it seems to have been clearly the understanding that foreign commerce was included. The law itself declares that interstate and foreign commerce in petroleum produced or withdrawn from storage, in excess of valid regulations of a state, is subject to the federal regulation. It is under this law that the Federal Tender Board functions.

Attempts to clear the oil frozen in storage in East Texas have been numerous. Nobody knows for certain how much there is. The state thinks there is around three million barrels, about equally divided as to steel and earthen storage. Most of it could be bought at bargain prices if there were any way to move it. Through confiscation and sale it can be moved intrastate, proceeds of the sale going into the state treasury, but the attorney general hasn't applied this method in several months. Federal authorities take the position that, no matter what the state does to sanctify illegally produced oil, it is still "hot" so far as interstate movement is concerned.

So, there it rests. With the demand for crude what it is now, we look for moves of several kinds to thaw out the frozen storage in East Texas. If Senator Connally believes the federal law does not apply to foreign shipments, and he has been quoted as saying that he so believes, there doubtless will be a move soon to try that procedure. Should it work, it would be an invitation to overproduce and fill export orders with fresh oil.

## EXTENT OF FOREIGN DEMAND

Worth-while figures on foreign movement of oil are difficult to come by and those that are obtainable are not current, hence the only guide to the situation today is the reports that brokers are quite busy lining up cargoes. However, some who have been approached say that price inducements from potential purchasers are lacking. Much of the shopping for oil and products is of the bargain-hunting nature. Foreign buyers, of course, always look for under-the-market goods; they still think of the days when the seller was glad to get what he could.

While foreign demand undoubtedly plays some part in the tightness of the crude market, the greatest weight must be given to the activity of domestic buyers in arranging for their requirements over 1937. Depletion of storage reserves continues and some major refiners are getting pretty low in reserve supply. There is no flush field today that promises important volume to several buyers at one time.

## MAJOR BUYERS INCREASE OWN PRODUCTION

Intensive drilling of older areas, rather than new discoveries, is mainly responsible for increases which most of the major companies showed in production owned by themselves for the third quarter of this year compared to the first quarter. The weakness of the proration system generally is that it has forced drilling. This is what the discussion is all about now, with the Independent Petroleum Association of America and the American Petroleum Institute campaigning to establish a policy that will offer operators a reward for conservative development. The vicious circle established is this: To get an allowable that would meet the needs, the operator drilled more wells and, when he completed them, the allowable per well was reduced, thus making it necessary to go on drilling.

Fewer wells with higher allowables would have served the purpose. But the other system was followed. Major companies did their part and, as said, their increases in daily production mainly came from fields that could have been produced from fewer wells.

Third quarter daily production averages for principal interests, compared to first quarter figures, are given in the following estimate. The major groups include subsidiaries operating in states west of the Mississippi but not including California. Figures are net daily production, in barrels, after deduction of one eighth for royalty, but with no deduction for partnership interests.

| Company | First Quarter | Third Quarter |
|---|---|---|
| Atlantic | 27,000 | 28,000 |
| Cities Service | 62,000 | 66,000 |
| Continental | 43,000 | 54,000 |
| Gulf Oil | 101,000 | 114,000 |
| Magnolia | 76,000 | 88,000 |
| Mid-Continent | 15,000 | 16,000 |
| Ohio Oil | 42,000 | 44,000 |
| Phillips | 54,000 | 54,000 |
| Pure Oil | 35,000 | 35,000 |
| Shell | 60,000 | 59,000 |
| Sinclair Prairie | 64,000 | 70,000 |
| Skelly | 21,000 | 26,000 |
| (S. O.) New Jersey | 149,000 | 164,000 |
| (S. O.) Indiana | 78,000 | 82,000 |
| Sun Oil | 31,000 | 32,000 |
| Texas Co. | 104,000 | 119,000 |
| Tide Water | 23,000 | 31,000 |

## AN EXPERT OPINION ON MEXICO

Claude V. Barrow, oil editor of the Oklahoman, Oklahoma City, saw some of Mexico last summer. With oil affairs in that troubled republic holding first page position of late, Mr. Barrow was moved to crank up his favorite character, Sam McGokus, who delivered the following observations on conditions in the ore fields of that country:

"Looks like there's going to be trouble down in the Mexican oil fields," your correspondent greeted Sam McGokus. "You were down there this summer; what do you think about it?"

"Well, feller; I don't think about it," replied Sam. "Every time I think about Mexico I remember what an old army officer told us down at Fort McIntosh during the war. He said we could kick the stuffin' out of the greasers on this side of the river if we wanted to, but we'd sure better not swim the river to do it."

"What's that got to do with it?"

"Lots; just plenty," Sam emphasized. "Just to show you: If you drive into a filling station here and tell the boy to fill 'er up with red gasoline, he does it and likes it; down there if you order red gasoline, he gives you blue, pours half of it on the fender and then short changes you—and you have to like it.

"If you start to squawk, he just says he 'no spik English,' waves his hands a couple of times and before you know it half the cops and half the people in town are swarming around to tell you what a good fellow the hombre is. Well, there ain't nothing to do but pay 'em and like 'em and come back home and say you had a heluver good time."

* * *

"But, surely you looked into the oil situation while you were down there, didn't you?" he was prompted. "Why everybody who even goes down to Monterrey to spend the night and get drunk comes back and gives interviews to the papers about conditions in Mexico."

"Yeah, you're right about that," he agreed. "A pullman tourist or a plain flivver 'turista' can get more low-down on a country in two days than a bespectacled scientist can get in a year.

* * *

"But, I did look into the situation, come to think of it. I asked a feller at a filling station at Monterrey how things were going and he said 'muy fino,' which I guess meant 'all right.'

"Then I got down to Victoria and a half-breed Jamaican who knew a dozen words of English told me everything was 'hokey dokey' and that the tourists are all half nuts. Well, I could agree with him.

"Then we got down to Valles and met a Swede who could talk languages like nobody's business. He said the darned country was rotten and since the tourists starting coming in it was beginning to smell bad. So, I agreed with him 'cause he was three times as big as the back end of my car.

* * *

"Just like that all the way to Mexico City. Met a guide who knew everything and he gave me the low-down. He said everybody but the American school teachers and tourists were going to be kicked out into the Gulf before very long. Next day I met a traffic cop—right in the middle of the street, it

was—and he told me they were going to run the other foreigners out and leave the Americans because they were so dumb they paid in cash.

"Then one day, I met a college professor and he gave me the low-down on everything; said the poor man was going to be rich and the rich man was going to be buried . . . said the Mexican was coming into his own heritage and all he would have to do would be to sit down and make the usurpers pay him for living. Then I met a young priest, and he took me down the alley and wanted to know if I needed him to drive my car back down to Laredo . . . said he would tell me the truth about everything after we got back to the states."

* * *

"Yes, but what about the present conflict beween the workers and the oil companies?" he was urged. "Didn't you see in the paper where the union is trying to confiscate all the oil wells, refineries, filling stations and gas pumps?"

"Uh, huh; I saw that," he replied. "And, I'd be in favor of them 'spiks' getting all they can, if they'd just pour that 57-octane gasoline out in the river, junk them old pumps and rain barrels, and build some good hamburger stands, tourists cottages and sell decent gasoline.

"My advice to you is just this: Believe about half what you read in the papers about Mexico and tend to your own business on this side of the river."

## Rates to Fla. Points

*By Teletype*
N.P.N. News Bureau

WASHINGTON, Dec. 1.—Atlantic Coast Line Railway today was granted authority to establish new lower rates from Panama City, Fla., to River Junction, Fla., for gasoline and kerosine in tank car loads. The road petitioned for the new rates on the basis of a distance scale approved by the Florida Railroad Commission to meet truck competition. The new rates are 10 cents per hundred pounds to River Junction, and 13 cents to Telogia, the same as those now in effect on like traffic over the direct intrastate route, with higher rates to intermediate points on the circuitous route. Previous rates to the two points were 16 and 20 cents, respectively, by the circuitous route.

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RALEIGH, N. C.—North Carolina has 23,000 gasoline pumps, 8500 kerosine pumps and 23,000 lubricating oil pumps, the 1935 business census shows.

## R-P Law Hearing Set for Boston

WASHINGTON, Nov. 30.—First hearing on a complaint issued under the new Robinson-Patman anti-price discrimination law by the Federal Trade Commission will be held at Boston Dec. 7. The complaint, alleging price discrimination in the sale of floor coverings, names Bird & Son, Inc., East Walpole, Mass., the seller, and Montgomery Ward & Co. Inc., Chicago, the buyer, as respondents.

Both have filed answers denying the alleged discrimination and attacking constitutionality of the R-P law.

Bird & Son declares the new law is unconstitutional as an attempt to regulate prices and restrict the respondents' right to sell and dispose of their property.

The answer of Montgomery Ward contends the statute is void because it purports to regulate business entirely within a state, which is beyond the powers of Congress. It also said terms of the act are "so vague, indefinite and uncertain that it fails to inform the individual as to what is unlawful."

Latest complaints issued under the law are against Standard Brands and Anheuser-Busch, Inc., charging them with price discrimination in offering a graduated scale of quantity discounts on bakers' yeast.

No complaints on oil marketing have been issued so far. But it is known that attention of the FTC has been called to practices of certain oil companies and investigations requested.

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RALEIGH, N. C.—North Carolina had 10,633 licensed retail outlets for gasoline on June 30, 1935. The business census for 1935 lists 6491 "filling stations" for the state. By "filling station" the Census Bureau means only outlets where sale of gasoline and oil makes up the greater part of the business; it excludes many other retail outlets for petroleum.

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### Mislabeling Is Charged

WASHINGTON, Dec. 1.—The Federal Trade Commission has issued a complaint against the American Lubricants Co. Inc., Dayton, O., charging that cans containing that company's oils are branded with the emblem of the Pennsylvania Grade Crude Oil Association.

The complaint alleges the company is not a member of that association and that its oil is "not a pure, unadulterated product of the Pennsylvania strata of oil fields, but is a blend of oils." It was also alleged that oil sold by the company does not have the viscosity represented by S.A.E. letters and numbers appearing on cans.

The company has 20 days in which to answer allegations in the complaint.

## *7 Indicted in Tax Case*

OKLAHOMA CITY, Nov. 28.—A federal grand jury here indicted seven, one a member of the Oklahoma legislature, on charges of evasion of the federal gasoline tax.

Those indicted were D. L. Kelly, Anadarko, state legislator and one of the officials in the Triangle Producing and Refining Co. in Oklahoma City; Ed C. Cheek, vice president of the company; Ralph Koble, of the Koble Oil Co., Clinton; Ernest Kiespert, El Reno, and W. S. Howard, Jim Renshaw and Ralph Kelly. The indictment charges conspiring to defraud the government of federal gasoline taxes due from sales in July and August, 1935.

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### Promoted in Sales Work

TULSA, Nov. 25.—D. H. Foster has been named special sales representative for the Mid-Continent Petroleum Corp.'s territory in Oklahoma, Kansas, Missouri and Arkansas, following six years service with the company as a lubrication engineer.

Mr. Foster, a graduate in engineering from the Oklahoma A. & M. College, formerly was chief chemist and assistant engineer of tests for the Missouri, Kansas & Texas Railway. He joined the Mid-Continent's technical staff in January, 1930. He will continue to handle the company's sales of road oil, in addition to his new duties.

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### Tax Diversion

NEW YORK, Nov. 25.—Diversion of state gasoline tax and motor registration receipts for non-highway purposes in 1935 reached a new high of $147,142,209, reports the U. S. Bureau of Public Roads. This represented an increase of $24,992,380 or 20.4 per cent over 1934, it reported.

Only eight states diverted highway funds in 1930 but this number had increased to 35 by 1935, the bureau stated.

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WASHINGTON, Nov. 26.—Bids will be opened Jan. 5 on royalty oil accruing to the U. S. from government lands in the Cat Creek field, Montana. During 1935 this royalty oil amounted to 14,000 barrels, with an average gravity of 49° A.P.I.

## Hope for Hearing On the Oil Code

*By Teletype*
N.P.N. News Bureau

WASHINGTON, Dec. 1.—Following a conference today at the Federal Trade Commission, the oil industry's Committee of Three was hopeful that a hearing will be held on the fair trade practice rules for oil marketing now pending before the commission.

All three members of the committee named at the Chicago code conference to negotiate with the FTC for approval of a voluntary marketing code were present. They are C. E. Arnott, Socony-Vacuum Oil Co.; Paul E. Hadlick, secretary of the National Oil Marketers Association; and Wilmer R. Schuh, president of the National Association of Petroleum Retailers.

Judge McCorkle, of the trade practice division of the commission, it is understood, indicated that he is disposed to recommend the commission hold a trade practice conference to consider the so-called oil code.

## *Water Shipping Ends Rate Increase Asked*

WASHINGTON, Nov. 26. — Declaring that the ending of the Great Lakes shipping season will eliminate water carrier competition, the Detroit, Toledo & Ironton railroad has asked the Interstate Commerce Commission for authority to discontinue reduced rates on petroleum coke from Toledo and Lima, O., to Niagara Falls, and Thorold and Welland, Ont., effective Dec. 15 instead of June 30, 1937.

On the other hand, the Elgin, Joliet & Eastern Railway, asks that the ICC allow it to continue its reduced rate of $3 per ton on petroleum coke until June 30, next, instead of terminating it on Dec. 15. The rate applies from the Chicago district to Niagara Falls.

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### Gas Line Order Expected

NEW YORK, Nov. 28.—The Public Service Commission today confirmed an order issued in October, which authorized the Cabot Gas Corp. to build a pipe line to transport natural gas from Pennsylvania to Rochester, N. Y. Opponents of the line obtained a rehearing from the October order. The line will be approximately 92 miles long and cost around $1,500,000, it was stated.

## *Security Act Protest*

NEW YORK, Nov. 28.—The Texas Corp., one of the largest oil companies in the United States, has filed a protest against the Social Security Act, it was revealed today. Many companies have filed such protests, it is understood.

A Texas Corp. official said the company was not opposed to the Act, but was making the protest as a precautionary measure for securing refunds if the Act is declared unconstitutional.

### More Wells Drilling

NEW YORK, Nov. 25.—A total of 18,518 oil and gas wells were drilled in the U. S. during first nine months of 1936, compared to 16,081 in the corresponding period of 1935, and 21,420 for the entire year of 1935, according to the American Petroleum Institute. If the same rate continues for the balance of 1936, the total will exceed 24,000. Dry holes drilled the first nine months of 1936 totaled 3803, or 20 per cent of the total number of wells drilled. The percentage of dry wells in 1935 was 23, in 1934, 23 and in 1933, 26.8, it was stated.

## *Nisbet Leaves Empire*

BARTLESVILLE, Nov. 28.—J. M. Nisbet, manager of the land and geological division of Empire Oil and Refining Co., has resigned, effective Jan. 1. He will devote his time to personal interests at Upland, Cal.

Mr. Nisbet was employed by the Empire companies in 1916 upon graduation from Stanford University. After various field assignments he was transferred to the Bartlesville office in 1921, later promoted to chief geologist and, in 1934, to his present position.

The announcement was made by A. W. Ambrose, vice president and assistant general manager of the company.

### Equipment Head Dies

TULSA, Nov. 25.—Funeral services for William Hayes Sims, president of the W. Hayes Sims Filling Station Equipment Co. here, were held Nov. 25 in Lawton, Okla., his former home. He died in a Tulsa hospital Nov. 23 following an operation. He was 42 years of age.

Coming to Tulsa in 1921, Mr. Sims became widely known as a station equipment salesman in the Mid-Continent and several years ago organized his own company which handled the products of a number of manufacturers.

# The Midwest Marketer

By E. L. BARRINGER
N. P. N. Chicago News Bureau

The new retail market set-up of the major oil companies can be discussed from numerous angles but all approaches finally arrive at the heart of the plan — the type of man operating the service station.

Success or failure of the individual service station lies in the ability of the operator to conduct a merchandising business on a sound basis and those closely in touch with retail marketing report two glaring weaknesses along this line have developed so far among some lessees. Both concern finances. One is the tendency to ignore costs and merchandise mark-ups. The other is the tendency for some lessees to become "nigger rich."

The personal financial situation of the lessee is his own private business. He has the same right as any man to spend his own money as he pleases. Yet, yanking a man off a steady income, through salary or commission, and placing him in charge of his own business naturally has a tendency to unsettle a man's personal financial stability.

Frequent bank deposits soon pyramid into a large sum, and the lessee lacking in business and financial experience may be tempted to think that the money piled up in his account is his own, pure net profits. Unwise personal expenditures follow, possibly on time payments, and there is the further handicap to neglect sales since easy money is rolling in. It is hard for a man afflicted with "nigger richness" to get back to earth.

A case in point is that of a lessee who operated his station for one month, during the summer, and turned up with a supposed net profit of some $150. The lessee proudly informed his supplier of his sudden success and announced he was bundling his family into the car for a month's vacation. The supplier believes this lessee will learn his lesson during the bleak winter months, when sales will be at low ebb.

Lack of experience in costs and accounting also has been a handicap to some lessees. The new retail plan has placed a considerable strain on some former employes who were converted over night into business men. No doubt some men will blossom into high grade business men and, in line with the law of averages, others will flounder around, just good employes unable to make the grade on their own.

Ignorance of merchandise mark-ups and what lines are most profitable is illustrated by the experience of one supplier. The lessee complained that he was through handling kerosine because there was no profit in it. Kerosine cost 10 cents and retailed at 13 cents. The supplier pointed to the $18 extra profit in the 600 gallons sold by the lessee each month and showed him the profit was 23 per cent of the selling price. The lessee, however, had his eyes glued to that 3 cents a gallon profit, forgetting that kerosine produced a gross of 23 per cent against only 13 per cent on tire sales and 21 per cent on gasoline.

Market observers believe that many of these lessees will work out their problems and get their finances, both business and personal, on a sound basis, but that suppliers will always have to wrestle with some of them continually if they are to be allowed to conduct themselves as independent merchants.

* * *

Mention the approach of a legislative session and well posted marketers have visions of increased tax rates or new taxes. This winter most state legislatures, and Congress, convene, but previews indicate that so-called "New Deal" measures will be given considerable consideration along with taxation in many states.

Some of the state legislatures are expected to turn their attention to enacting measures similar to federal laws, such as the Robinson-Patman, Walsh-Healey and social security laws.

Such laws obviously would bring changes in marketing practices, especially for jobbers and retailers who in conducting their own intrastate businesses might be exempt from interstate measures enacted by Congress. In case state "New Deal" legislation materializes, indications point to the oil industry giving its effort to see that practical, workable measures are considered.

Two conventions were held in Chicago this fall, in temperament and policies as far apart as the poles. These were the National Oil Marketers Association and the American Petroleum Institute meetings.

Yet, on one basic point both groups were in agreement, judging from utterances of leaders. That is the issue of free competition.

The institute president stated "this industry believes in a free competitive system." The national jobbers' association secretary declared against government regulation in production, but advised that, if government regulation in production continues, then marketers should seek comparable protection in marketing.

Free competition or control is a broad question. Furthermore, if there is to be control in any one branch, how about control in other branches? Jobbers who have studied the situation seem to be in favor of a free, competitive system, and willing to take their chances in competitive selling if there is a competitive crude market. But if there is to be control in production the jobber no doubt will ask for some control and protection on his end of the business.

* * *

An indication of the trend in winter resort travel is seen in the recent announcement of one railroad that operation of special Florida bound trains out of Chicago will start this winter three weeks ahead of last year's schedule.

### Sentenced for Tax Evasion

NEW YORK, Nov. 28.—Prison sentences of one year and fines of $2500 each for evasion of federal gasoline taxes have been imposed upon three men by Federal Judge McMillan, San Antonio, Texas, according to the American Petroleum Industries Committee. The defendants pleaded guilty to evasions amounting to about $8000 in connection with operation of a refinery at Oilton, Texas, it was stated.

Several other cases of alleged gasoline tax evasion investigated by Texas state officials and turned over to federal authorities about two years ago have not been brought to trial, it is reported.

# High Spots of Next Week's Meetings

## *Coming Meetings*

**1936**

**National Exposition of Chemical Industries,** Grand Central Palace, New York City, Dec. 6 to 11.

**Nebraska Petroleum Marketers,** Hotel Paxton, Omaha, Nebr., Dec. 8, 9 and 10.

**Mid-Continent Oil & Gas Association,** annual meeting of general board of directors, Tulsa, Okla., Dec. 15.

**1937**

**Society of Automotive Engineers,** Book-Cadillac Hotel, Detroit, Mich., Jan. 11 to 15.

**First International Consumers Petroleum Exposition,** Convention Hall, Detroit, Mich., Jan. 16 to 24.

**Northwest Petroleum Association,** North Dakota division, Patterson Hotel, Bismarck, Jan. 18, 19.

**Northwest Petroleum Association,** Minnesota division, West Hotel, Minnapolis, Jan. 21, 22.

**Kentucky Petroleum Marketers Association,** Brown Hotel, Louisville, Ky., Feb. 8, 9, 10.

**Ohio Petroleum Marketers Association,** Hotel Deshler-Wallick, Columbus, Ohio, Feb. 23, 24 and 25.

**Wisconsin Petroleum Association,** annual convention and equipment show, Milwaukee, Wis., Feb. 23, 24 and 25.

**American Society for Testing Materials,** 1937 Regional Meeting and Committee Week, Palmer House, Chicago, Ill., March 1 to 5.

**National Oil Burner and Air Conditioning Exposition,** Commercial Museum, Philadelphia, Pa., March 15 to 19.

**American Association of Petroleum Geologists,** Biltmore Hotel, Los Angeles, Calif., March 17, 18, 19.

**American Institute of Mining & Metallurgical Engineers,** Open Hearth Conference, Birmingham, Ala., April 7 to 9.

**Petroleum Industry Electrical Assn.,** Shreveport, La., April 8 to 10.

**National Petroleum Association,** 34th semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 15 and 16.

**Oil Equipment & Engineering Exposition,** Houston, Texas, April 19 to 24.

**American Petroleum Institute,** Mid-Year Meeting, Broadmoor Hotel, Colorado Springs, Col., June 1, 2, 3.

**Nebraska Petroleum Marketers, Omaha, December 8 to 10:**

*December* 8:

Oil Jobbers' problems, "Where Do We Go From Here?" by O. D. Corey, Corey Fuel & Oil Co., Lincoln, President of the Association.

Taxes—"One-Third of Your Time," by H. H. Hahn, secretary, Nebraska Petroleum Industries Committee.

"Building a Successful Oil Jobbing Business with Service and Goodwill," by P. E. Margason, L. L. Coryell & Son, Lincoln.

"Sub-Rosa Government," by Mrs. P. T. McGerr, Lincoln,

*December* 9:

"Code of Fair Competition," by Wilmer Schuh, President, National Association of Petroleum Retailers.

"The Iowa Plan," by E. L. Barringer, Chicago news bureau, NATIONAL PETROLEUM NEWS.

Robinson-Patman law, by Quintard Joyner, attorney, Omaha.

"Motor Fuel Tax Refunds from Uncle Sam," by Walter Barnes, Phillips Petroleum Co., Des Moines.

## *Advertiser's Index*

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Acheson Colloids Corp. ..... 67
American Oil & Grease Corp. 61
American Weekly, The ..... 75
Berry Sons' Co., James B. ..... 58
Butler Mfg. Co. ..... 4-5
Cincinnati Ball Crank Co. ... 49
Classified Advertisements ... 40
Curtis Pneumatic Mach. Co. . 63
Cushing Refg. & Gasoline Co. 66
Dyestuffs & Chemicals, Inc. . 62
Elco Grease & Oil Co. ..... 58
Esso, Inc. ..... 60
Ethyl Gasoline Corp. ..... 42
Farrell Mfg. Co. ..... 41
Freedom Oil Works Co. ..... 53
Fruehauf Trailer Co. ..... 45
General American Tank Storage & Terminal Co. ..... 52
Gilbert & Barker Mfg. Co. ... 6
Humble Oil & Refg. Co. ..... 61
Jesco Lubricants Co. ..... 55
Kellogg Co., M. W. ..... 87
Kidde & Co., Inc., Walter ... 60
Leeds & Northrup Co. ..... 79
Lux Fire Extinguishers ..... 60
Morrison Bros. ....Third Cover
New York Lubricating Oil Co. 2
Ohio Oil Co. ..... 31
Philadelphia Valve Co. ..... 51
Pittsburgh Equitable Meter Co. ..... 1
Polymerization Process Corp. 82
Quincy Compressor Co. ..... 3
Roper Corp., Geo. D. ..... ..... Second Cover
Shell ..... 46
Skelly Oil Co. ..... 7
Sun Oil Co. ..... Fourth Cover
Universal Oil Products Co. ... 71
Viking Pump Co. ..... 96


### China's Oil Reserve

The total probable reserve of oil in China, including shale oil, is considered to be 3,604,800,000 barrels by the National Geological Survey of China. The estimate includes 1,899,000,000 barrels of Fushun shale oil in Manchuria.

The probable coal reserve for the whole country is estimated at 250,000,000,000 tons including 4,610,000,000 tons in Manchuria and Jehol.

CHICAGO—L. A. Mekler, combustion engineer, Universal Oil Products Co., addressed the Western Society of Engineers, in Chicago, Nov. 23, on "Recent Developments in the Production of Motor Fuel."

| Region | Oil shale reserve Tons | Oil reserve Million bbls. |
|---|---|---|
| Natural petroleum (U. S. G. S.) | | 1,375 |
| North Shensi, north part | 125,400,000 @ 5.95% | 47.8 |
| North Shensi south part | 299,000,000 @ 6.7% | 128.0 |
| Kuangtung, Maoming | 313,000,000 @ 7.74% | 155.0 |
| Liaoning (Manchuria), Fushun | 5,300,000,000 @ 5.5% | 1,899 |
| Total | | 3,604.8 |

# *Contents*

## NEWS


Excess Drilling Due to Proration Methods ... 9
Plant Blockade Threatened by Truckers Union ... 9
W-H Ruling Reconsidered as Result of Jobber's Protest ... 10
State Compact Aids Refiners Western Producers Told ... 11
State Should Operate Fields on Its Lands, Says Governor ... 12
E. Texas Gasoline Shipped as Kerosine, is Testified ... 13
N. Carolina Urged to Enlarge Duties of Oil Inspectors ... 17
3% Reduction for B. S. is Attacked in Courts 19
B. S. Deduction Was Upheld in Oklahoma Suit on Texas ... 19
Conservation, Long Oil's Battle-cry in the Southwest ... 43


## MARKETS


Markets (2) ... 25
Mid-Continent ... 25
Pennsylvania ... 26
Coastal ... 26
Eastern ... 26
Chicago ... 26
California ... 27
Wax ... 27
Heating Oil ... 27
Refinery Tank Car Markets ... 28, 29, 30
Tank Wagon Service Station Markets 32, 33, 34
Seaboard Markets ... 35, 36
Crude Oil Markets ... 37, 38


## MERCHANDISING

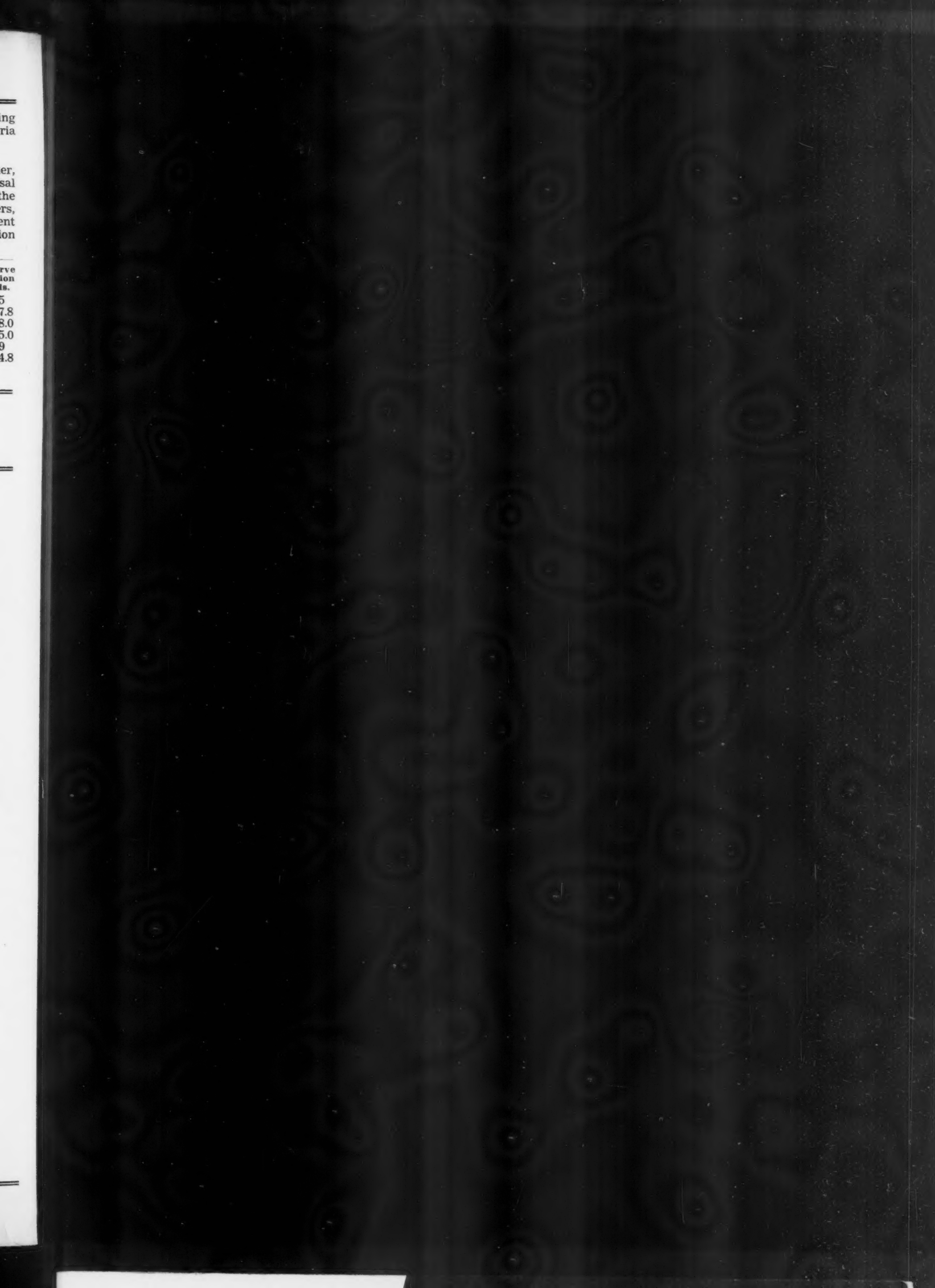

Thinking About a Trailer Camp ... 50
Making the Station a Store *by Sam A. Weissenburger* ... 59
Ohio Consumer Co-op Station Expanding Into Other Lines ... 65
Guaranteed Winter Starting Campaign Launched by Sohio ... 66


## TECHNICAL


"Butane Machines" Increase Cooling, Improve Plant Efficiency by *J. C. Albright* ... 72
Pacemaker in Nowata Projects Has Passed Production Peak ... 77
The Patent Structure on Pour Point Inhibitors by *J. H. Byers* ... 83
Furnace Design Stops Overheating Reduces Building Costs by *F. H. Praeger and T. B. Leech* ... 91


## DEPARTMENTS


Editorials ... 14, 15
Washington from the Crown Block ... 17
Middlewest Marketer ... 23
Automotive Notes and Comments ... 68



# Markets

## Cold Snap Gives Fuel Oils a Play

CLEVELAND, Nov. 30

SPOT trading was relatively quiet in oil markets the last week of November. Trade interest shifted from gasoline to fuel oils despite the fact that gasoline consumption still was running well ahead of 1935.

Gasoline prices generally remained unchanged from the previous week when prices in some districts were advanced slightly. A decrease of almost one million barrels in stocks of finished and unfinished gasoline, as reported to the American Petroleum Institute, tended to support the opinion held by most observers that gasoline markets were in good shape.

Colder weather over much of the large consuming territory of the country stimulated interest in fuel oils and cut gasoline consumption.

Despite the fact that open market demand for gasoline was slack, offerings were well held in most refinery districts. There apparently was no gasoline around that could be classified as "distress". Sellers all had gasoline for sale, but taken all in all, they were not offering concessions to attract buyers.

Lack of price shading was surprising to some observers. So often at this time of year when unfavorable weather begins to cut consumption sellers have shaded prices to keep their production moving.

Apparently, however, the good position of inventories has made refiners more independent. The drop of 914,000 barrels in stocks of gasoline, accomplished when crude runs were increased 95,000 barrels daily, placed stocks in the best position in relation to demand since February.

Observers who had predicted that the higher prices reached in the Mid-Continent and Mid-Western markets the previous week would not hold, were not quite as skeptical. There was no question that trading last week was slack. But there was no proof that it was slack because of higher prices. In all probability colder weather was the primary reason for the quiet trading. Spot trading was slack in other markets where prices had not advanced.

Markets at the Gulf and along the eastern seaboard were influenced more by the seamen's strike. Suppliers at the Gulf had several inquiries for kerosine and light fuels, but in most cases the buyer wanted a delivered eastern seaboard price to avoid paying the higher boat rates established since the strike was called. Sellers declined to do business on this basis. If supplies of kerosine at the eastern seaboard actually become scarce, western Pennsylvania refiners stand to get back temporarily, at least some kerosine business they had in years gone by. Observers recalled that western Pennsylvania refiners formerly had a good market for kerosine in New England, New York, and eastern Pennsylvania. Recently most of this business has been lost to eastern seaboard suppliers.

Natural gasoline remained steady. Buyers complained that present prices were much too high. In some cases it became unprofitable to continue blending. Many manufacturers still were behind on shipments.

While domestic demand for Mid-Continent lubricating oils again failed to come up to expectations, most sellers of Pennsylvania lubricating oils were behind on shipments. Pennsylvania neutrals, particularly, were difficult to obtain.

Contradictory reports were heard about wax. Some indicated that trading was dull; both buyers and sellers showing little interest. Other reports, however, indicated that buying was sufficient to absorb practically all current production. Some refiners were sold out for the remainder of the year.

## Mid-Continent

### GASOLINE PRICES STEADY

TULSA, Nov. 28

● Mid-Continent gasoline prices remained steady the last week of November. There was a slight letup in open market buying. Lighter demand was especially noticeable in the low octane motor fuels.

Despite the slackening of demand, however, there appeared to be no disposition on the part of refiners to offer price concessions to stimulate movement.

Brokers reported that so-called "Gainesville gasoline" was making its appearance in the open market. Heretofore the gasoline output of the two or three small plants near Gainesville, Texas has been absorbed locally in the North Texas marketing area. Brokers reported this gasoline now was being offered in limited quantities in the general Mid-Continent marketing territory. A test of the octane value of this gasoline was not available, according to traders. Buyers, consequently, were somewhat hesitant to purchase this product until a definite octane value could be placed on the gasoline. Some observers reported the gasoline was available at slight price concessions. Volume of "Gainesville gasoline" available in the open market, however, was small, since refining capacity in that area amounts to only a few thousand barrels daily.

Two inquiries for cargo lots of East Texas gasoline were received this week. The deals had not been consummated up to the end of the week. Most suppliers quoted higher prices than those offered by buyers.

High octane gasoline was moving out in fair volume, most suppliers reported. So far, inclement weather has made only slight inroads into consumption.

Low octane gasoline was sluggish, taking the Mid-Continent as a whole, as buyers increased their takings of the higher octane grades and began cutting down on the lower octanes. Other factors also contributed to the sluggishness of low octane gasoline. Aside from Gainesville, there were increased offerings from Rodessa again, and reports from Chicago indicated that Michigan also was again becoming more of a factor in the northern market.

Then there was the current position of the natural gasoline market which tended to discourage the blending of natural gasoline with low octane straight run by jobbers as well as refiners.

Movement of natural gasoline to refiners was fairly heavy, although there still was some resistance to the recently advanced prices for Grade 26-70. Manufacturers reported export and coastwise movement of natural was heavy. Most of the export movement, however, was to contract outlets, although there were several inquiries in the open market.

Several new foreign outlets for natural gasoline have been established in the past few months. Mid-Continent manufacturers with terminal facilities at the Gulf have reported increasing interest in natural gasoline among the foreign trade, particularly in Europe. Roumanian gasoline apparently needs considerable pepping up for winter use.

Stocks of kerosine were low at most Mid-Continent plants, reports indicated. Switching from the manufacture of kerosine to light fuel has resulted in shortage of kerosine in one or two districts. Prices generally were unchanged, although some sellers were quoting higher prices.

Active export inquiry for lubricating oil was reported by most Mid-Continent suppliers. One large exporter reported movement of cased goods the past two months was the best in several years. Higher prices on export sales were reported in some instances. It was indicated that the differential between domestic and cargo prices had been narrowed somewhat on several recent cargo transactions. Many of the inquiries for export shipment of lubricating oil specified immediate delivery.

Domestic demand for lubricating oil still was below expectations, according to many sellers.

Domestic demand for neutrals so far this season has been particularly disappointing, refiners said, and increased production has acted as a further deterrent on the market. Production has increased in practically all parts of the Mid-Continent and new plants in the Louisiana-Arkansas district have added still more to an already well-supplied market.

Bright stock was none too well held by most refiners. Such price concessions as were offered the past week, however, apparently were in inter-refinery trades, and prices to jobbers were unchanged.

Brisk demand for Mid-Continent wax was reported. Most suppliers, however, were sold up.

## Chicago

### INTEREST IN GASOLINE LAGS

CHICAGO, Nov. 28

● In a period of relatively quiet open market trading, Mid-Western wholesale and retail gasoline markets were generally steady the last week of November.

Weather was the dominating influence in the gasoline market. As lower temperatures spread, interest in gasoline lagged and traders turned to fuel oil markets.

Open market buyers generally refused to anticipate their needs, and took only their immediate requirements. Nevertheless, demand, although light, sufficed to keep any appreciable surplus from appearing. An outstanding market feature was the virtual absence of price shading.

The high rate of consumption, which was reflected more in takings by contract customers, was another feature. While a seasonal decline has set in, reports from the territory indicate that gallonage still is considerably above the 1935 level.

Offsetting favorable features to some extent was the return of Michigan as a market factor. As yet offerings from this district have been restricted, but indications late in the week pointed to a further easing of gasoline in that state.

Reports were that new discoveries have made available more crude to Michigan refiners. The actual increase seems to be anyone's guess, but some observers believe that smaller refining units, long partially or completely shutdown, would be running again in the near future.

Full specification low octane gasoline moved at a minimum of 4.625 cents throughout the week. Gasoline with 63-67 octane rating commanded a minimum of 5 cents, although occasional reports of off-color material falling within this octane range were encountered at slightly lower prices. High octane gasoline, 68-70, was freely offered at 5.5 cents and up.

Kerosine and distillate sold at higher prices. A good portion of the kerosine moving in the open market was augmenting the better grades of distillate as a fuel for range burners, according to most reports. This, coupled with the fact that refiners were reported to be sacrificing kerosine production for light fuel oils, contributed to the strength displayed by kerosine.

## Pennsylvania

### PRICES STEADY

CLEVELAND, Nov. 28

● Although buying was slack, most products in the Pennsylvania market remained fairly firm the last week of November. Lack of buying was a bit unusual since many buyers generally make arrangements for their following month's requirements the last week of the month.

Bright stock and neutral oils were the best items on the list. The higher octane gasolines were firm. U. S. Motor was easy. Kerosine and fuel oil still failed to follow the usual seasonal trend.

The failure of buyers to place orders for their December requirements was only slightly disturbing to most sellers. As far as bright stock and neutrals were concerned there was little new business to be done. Sellers had expected buyers to hold off ordering gasoline. In view of the somewhat easier position of both kerosine and fuel oil, buyers still had both oils on order against which they had not issued shipping instructions.

Many refiners were asking higher prices for bright stock but 25 pour test No. 8 color was available at 20.5 cents in sufficient quantities to be representative of the general market. The firm position of bright stock was due largely to the active demand from exporters rather than from domestic jobbers.

Colder weather in much of the marketing territory of the western Pennsylvania refiners cut into consumption of gasoline. While jobbers were hesitant about paying current prices for the higher octanes, refiners who were offering blends of natural gasoline and benzol could hardly reduce their prices because of higher costs.

Kerosine was spotty. Some refiners were getting sufficient orders to keep inventories in good shape. Others, however, had a bit more than usual to sell. Colder weather failed to stimulate buying.

Fuel oil was in about the same position as kerosine. At least two plants that had no 36-40 fuel oil a month ago were offering the past week.

Reports indicated wax demand was more active. Prices were steadier. Some sellers were quoting slightly higher.

## Eastern

### KEROSINE TIGHTER

NEW YORK, Nov. 28

● Kerosine was tighter along the eastern seaboard during the past week and prices were advanced by some companies. Others made no change but said they were making little effort to obtain open market business.

Increased demand for kerosine during the past two weeks caused by colder weather and a shortage in stocks at eastern terminals were reported quite generally. At least two major companies were buying kerosine at New York harbor to relieve temporary shortages and were forced to pay 0.125 cent above the general price to jobbers in some instances.

Several suppliers said they were accepting orders only from their regular contract customers and were endeavoring to hold these down as low as possible, particularly for kerosine. Delays in cargo shipments caused by the seamen's strike continued, and while most companies said they have not been seriously hampered, others said it had caused them considerable inconvenience. One reported having a loaded boat laidup for a week at the Gulf before a crew could be obtained. Another company said one of its boats was tied up for nine days after unloading at its New York harbor terminal. This was equivalent to losing the sale of approximately half a cargo of oil, it was said.

Tank car gasoline markets were unchanged at eastern terminals. At New York harbor, occasional sales of 65 octane and above gasoline were reported at 6.25 cents and many suppliers asked 6.75 cents, but the majority of open market business apparently was at 6.5 cents.

Some companies said they expected a steadier gasoline market throughout New York and New England, now that Socony-Vacuum has officially announced its commercial consumer policy. However, several jobbers pointed out that although the new schedule is better for them than that prevailing in the northern part of the Standard of New Jersey territory, it still prevents dealers from competing for much of this business.

## Coastal

### ALL PRODUCTS STEADY

NEW YORK, Nov. 28

● Cargo markets at the Gulf were steady during the week ended Nov. 28 although spot buying was lacking. This was equally true of both export and domestic trading.

The chief reason for the scarcity of sales in the open cargo market for domestic delivery was the uncertainty and high prices prevailing in the boat market. Suppliers said they had received numerous inquiries for kerosine and light fuel oils but in many cases the inquirer wanted to buy on a "delivered eastern port" basis to avoid paying the open charter rate and the possible delay in shipments caused by the seamen's strike. This method of selling, they reported, was not satisfactory and as a result open cargo sales were lacking.

Export sales also were lacking at the Gulf, although the strike had nothing to do with this market. The inquiry for a mixed cargo of 64-66, 375 e.p. and U. S. Motor gasoline apparently either was cancelled or it was purchased abroad.

Reports on the Roumanian gasoline market differed. Some observers said that refiners there again were interested in selling for European delivery, while others said their offices abroad reported no change in Roumanian gasoline quotations. Indications were that Roumanian quotations on kerosine and gas oil were higher than in the previous week. At that time they were considerably above quotations at the American Gulf.

# California

### KEROSINE SCARCE

LOS ANGELES, Nov. 27

● Notwithstanding an increase in the quantity of unbranded gasoline sold in the Los Angeles Basin area during the past week, wholesale and retail prices of major company third grade and independent competitive brands of gasoline remained relatively stable.

No-brand gasoline came almost exclusively from a recently enlarged independent refinery and was handled by jobbers or distributors on a margin of about 0.5 cent a gallon. The rack price was 11.5 cents, inclusive of 4 cents tax and in most highly competitive districts it was retailed at 12.9 cents, leaving less than 1.5 cents as the combined margin for distributor and retailer, as compared with a general margin of 3 cents for other independent brands.

So far, a majority of independent refiners had made no attempt to meet these bulk prices or permitted their distributors to cut their margins. However, officials of all marketing companies were seriously disturbed by the threat these conditions presented to market stability, especially in view of the impending seasonal decline in demand.

Premiums as high as 32 cents a barrel were reported paid by Basin refiners for desirable grades of crude oil. These premiums were a serious handicap to independent refiners in meeting the competition of unbranded gasoline and in their efforts to retain contracts with buyers in Arizona and Utah. Orders from many Rocky Mountain points that would normally be placed with California refiners were being given to Mid-Continent suppliers.

A decline in demand was responsible for more liberal offerings of natural gasoline, which, however, did not affect the price range of 7.5 to 7.75 cents a gallon, delivered at refinery.

Independent plants in the Los Angeles Basin and San Joaquin Valley were reported to have little kerosine and kerosine-distillate. Quotations on these products were firm.

# Wax

### SCALE DULL

NEW YORK, Nov. 28.—Dullness prevailed in the crude scale wax market the past week, traders said, and nothing of outstanding interest was reported. Buyers, particularly exporters, appeared to be showing little interest. On the other hand suppliers were not pushing sales. This situation resulted in a quiet market with prices about unchanged. Several manufacturers said they had already sold their entire December output of scale and were, therefore, not in position to sell even if the market should rise.

# Fuel Oil . . PRICES UP AS COLD WEATHER SPREADS

WITH oil market interest centering on fuel oils and spot offerings fairly scarce in most districts, prices for light oils were generally higher the last week of November. Industrial fuels also were active; a demand from manufacturing plants continued unabated.

All grades of light fuel oil were advanced at least 0.125 cent in the majority of refinery districts. Many refiners were refusing to offer in the open market, preferring to store for later shipment against contracts or for higher spot prices. While the advances generally came too late in the week to determine whether the higher prices would bring out more offerings, traders generally believed that spot buying would readily absorb any new material appearing on the market.

Industrial plant operations remained at or near the high for the year. Demand for heavy fuels was good. Stocks at most refineries were at about normal working levels.

—N P N—

CHICAGO, Nov. 28.—Demand in the Mid-Western market for light fuel oils was more active as colder weather spread over the middle west.

Home consumption has been such, reports indicated, that distributors have reduced stocks accumulated prior to the heating oil season.

Orders the past week, while in greater volume, generally were for small lots indicating that many distributors preferred not to chance the current market.

On the other hand, several buyers contacted took an opposite view and were firm in their belief of no higher prices in December. This belief was shared by some resellers who were not turning down orders at present prices for shipment late in December.

Virtually all traders here credit the strength of present fuel oil markets to the fact that supplies were well held at refineries.

All grades of light fuel oil were quoted 0.125 cent higher the past week. Industrial fuels also were steady. Demand at manufacturing plants adjacent to Chicago furnished a ready outlet for heavy oils from refiners within this district.

—N P N—

NEW YORK, Nov. 28.—Advances of 0.125 to 0.375 cent a gallon in tank car and barge prices of light fuel oils at eastern terminals by several major and independent companies featured these markets the past week.

The advances, putting No. 1 oil at 5 cents, No. 2 at 4.5 cents and No. 4 at 4.25 cents for tank car delivery from seaboard terminals from Charleston north to Boston were first announced by Consolidated Oil Co. The company does not market all these grades at all terminals. Prices at inland bulk plants were advanced to maintain regular differentials over seaboard terminals. Where barge prices are posted at seaboard terminals they were maintained at existing margins under tank car prices.

The new prices also were posted either Nov. 27 or 28 by several other major and independent companies marketing in eastern areas, but the majority had made no change as the week ended. Several said they probably would advance early the coming week, while others said they were uncertain whether they would raise or not.

Demand for both light and heavy fuels was good, particularly for the former. Cold weather prevailed most of the week, especially in Pennsylvania, New York and New England.

(*Continued on page* 34)

## FUEL OILS

*Prices in Effect Nov. 30, 1936*

*Following are tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.*

| | No. 1 | No. 2 | No. 3 | No. 4 |
|---|---|---|---|---|
| **S. O. NEW JERSEY** | | | | |
| Newark, N. J. | 7.25 | 6 | 6 | 6 |
| Atlantic City, N. J. | 8 | 6.5 | 6.5 | 6 |
| Baltimore, Md. | 8 | 6 | 6 | 5.5 |
| Washington, D. C. | 8.00 | 6.75 | 6.75 | 6.75 |
| **SOCONY-VACUUM OIL CO., INC.** (S. O. New York Division) | | | | |
| New York City | 7 | 6.50 | 6.50 | 6.00 |
| Albany, N. Y. | 7.75 | 6.50 | 6.50 | 6.00 |
| Rochester, N. Y. | 8.25 | 7.00 | 7.00 | 7.00 |
| Boston, Mass. | 7.00 | 6.25 | 6.25 | 6.25 |
| Bangor, Me. | 6.50 | 5.50 | 5.50 | 5.50 |
| Manchester, N. H. | 8.00 | 6.75 | 6.75 | 6.75 |
| Burlington, Vt. | 8.75 | 7.00 | 7.00 | 7.00 |
| New Haven, Conn. | 7.50 | 5.50 | 5.50 | 5.50 |
| Providence, R. I. | 7.00 | 6.25 | 6.25 | 5.75 |
| **ATLANTIC REFINING** | | | | |
| Philadelphia, Pa. | 6.75 | 5.50 | 5.50 | 5.00 |
| Allentown, Pa. | 7.75 | 6.50 | 6.50 | 6.50 |
| Wilmington, Del. | 7.25 | 6.00 | 6.00 | 5.50 |
| Springfield, Mass. | 7.50 | 6.00 | | 6.00 |
| Worcester, Mass. | 7.75 | 6.75 | | 6.75 |
| Hartford, Conn. | 7.00 | 6.50 | | 6.50 |
| **S. O. OHIO** | | | | |
| *Ohio Statewide | 8.00 | 7.50 | 7.00 | 6.75 |

*Discounts*: At Newark and Atlantic City, purchasers taking 50,000 gals. get discount of 0.5c per gal.

*Discounts*: At New York City, consumers taking 10,000 to 50,000 gals., get 0.25c per gal. discount when minimum amount has been reached; above 50,000 gals., 0.5c.

*Note: S. O. Ohio prices are for hose dumps, bucket dumps are 0.5c per gallon higher.*

Except Cleveland Division and City of Toledo. In Cleveland Division (Cuyahoga, Lake and Geauga counties), No. 1 price is same as statewide; Nos. 2, 3 and 4 are 0.5c higher; No. 5 is priced 0.25c lower than No. 4. In Toledo No. 2 is 0.5c lower than statewide, others same.

**S. O. INDIANA**

**Stanolex Fuel and Furnace Oils**

| | No. 1 Fuel | Stanolex Furnace |
|---|---|---|
| Chicago | 6.75 | 6.75 |
| Indianapolis | ... | *11.7 |
| Detroit | 6.8 | 6.8 |
| Milwaukee | 8 | 7.3 |
| Minneapolis | 7.25 | 7.25 |
| Sioux City | 7.1 | 7.1 |
| St. Louis | 7.5 | 6.8 |
| Kansas City | 6.5 | 6.5 |

*Includes state tax of 4c.

*Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.*

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

## Gasoline *and* Naphtha

**OKLAHOMA** (Representing majority of quotations or sales, f.o.b. Oklahoma refineries)

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 48-54, 450 e.p. naphtha | *4.625- 4.75 | *4.625- 4.75 | *4.625- 4.75 |
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 | 4.75 | 4.75 |
| 63-67 octane | 5.125- 5.375 | 5.125- 5.375 | 5.125- 5.375 |
| 68-70 octane (regular) | 5.75 | 5.75 | 5.75 |
| 60-62, 400 e.p. gasoline | 4.75 - 4.875 | 4.75 - 4.875 | 4.75 - 4.875 |
| 64-66, 375 e.p. gasoline | *5.00 - 5.125 | *5.00 - 5.125 | 5.00 - 5.125 |
| 68-70, 350-360 e.p. gasoline | *5.00 - 5.25 | *5.00 - 5.25 | *5.00 - 5.25 |

*Nominal.

**WESTERN PENNA.** (Prices representing majority of quotations or sales)

| | | | |
|---|---|---|---|
| *Bradford-Warren*: | | | |
| 52-54 naphtha | 5.375- 5.50 | 5.375- 5.50 | 5.375- 5.50 |
| Motor gasoline: | | | |
| U. S. Motor (58-62°) | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 |
| Minimum 60 octane | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 |
| Minimum 65 octane | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 |
| Minimum 70 octane | ..... | ..... | ..... |
| 64-66, 390 e.p. gasoline | 5.75 - 5.875 | 5.75 - 5.875 | 5.75 - 5.875 |
| 68-70, 350-360 e.p. gasoline | 6.00 - 6.125 | 6.00 - 6.125 | 6.00 - 6.125 |
| *Other districts*: | | | |
| 52-54 naphtha | 5.375- 5.50 | 5.375- 5.50 | 5.375- 5.50 |
| 54-56 naphtha | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 |
| Motor gasoline: | | | |
| U. S. Motor (58-62°) | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 |
| Minimum 60 octane | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 |
| Minimum 65 octane | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 |
| Minimum 70 octane | ..... | ..... | ..... |
| 64-66, 390 e.p. gasoline | 5.75 - 5.875 | 5.75 - 5.875 | 5.75 - 5.875 |
| 68-70, 350-360 e.p. gasoline | 6.00 - 6.125 | 6.00 - 6.125 | 6.00 - 6.125 |

**CALIFORNIA** (3c tax to be added to prices if used in state)

| | | | |
|---|---|---|---|
| 54-58 U. S. Motor, 437 e.p. for in-state shipment | 8.00 - 8.50 | 8.00 - 8.50 | 8.00 - 8.50 |
| 54-58 U. S. Motor, 437 e.p. for outside state shipment | 7.75 - 8.50 | 7.75 - 8.50 | 7.75 - 8.50 |
| 58-61, 375-400 e.p. gasoline, 65 octane and above | 8.25 - 9.00 | 8.25 - 9.00 | 8.25 - 9.00 |

**†NORTH TEXAS** (Prices represent majority of quotations or sales, F.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments).

| | | | |
|---|---|---|---|
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 | 4.75 | 4.75 |
| 63-67 octane | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 |
| 68-70 octane (regular) | 5.75 | 5.75 | 5.75 |
| 60-62, 400 e.p. gasoline | 4.75 - 4.875 | 4.75 - 4.875 | 4.75 - 4.875 |
| 64-66, 375 e.p. gasoline | 4.875- 5.00 | 4.875- 5.00 | 4.875- 5.00 |
| 68-70, 350-360 e.p. gasoline | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |

**KANSAS** (F.o.b. refinery, Kansas destination)

| | | | |
|---|---|---|---|
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |
| 63-67 octane | * | * | * |
| 68-70 octane (regular) | 6.00 - 6.125 | 6.00 - 6.125 | 6.00 - 6.125 |
| 60-62, 400 e.p. gasoline | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |

*This price discontinued due to thinness of open market sales.

**†WEST TEXAS and NEW MEXICO** (Prices represent majority of quotations or sales, F.o.b. W. Texas and N. Mexico refineries for unrestricted shipment unless otherwise noted.)

| | | | |
|---|---|---|---|
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | 4.75 | 4.75 | 4.75 |
| 63-67 octane | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 |
| 68-70 octane (regular) | 5.75 | 5.75 | 5.75 |

**†EAST TEXAS** (Prices represent majority of quotations or sales, F.o.b. East Texas refinery for unrestricted shipment unless otherwise noted)

| | | | |
|---|---|---|---|
| U. S. Motor gasoline, by octane numbers: | | | |
| 62 octane and below | *4.625 | *4.625 | *4.50 - 4.625 |
| 60-62, 400 e.p. gasoline | *4.625 | *4.625 | *4.625 |

*Nominal.

**NORTH LOUISIANA** (Prices represent majority of quotations or sales, f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas)

| | | | |
|---|---|---|---|
| U. S. Motor gasoline: | | | |
| 62 octane and below | 5.50 | 5.50 | 5.50 |
| 63-67 octane | 6.25 | 6.25 | 6.25 |
| 68-70 octane (regular) | 6.50 | 6.50 | 6.50 |

†Refiners generally receive from 0.25c to 0.5c per gallon more for gasoline and kerosine for local or differential territory shipment.

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| **ARKANSAS** (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana) | | | |
| U. S. Motor Gasoline: | | | |
| 62 octane and below | 5.50 | 5.50 | 5.50 |
| 63-67 octane | 6.25 | 6.25 | 6.25 |
| 68-70 octane (regular) | 6.50 | 6.50 | 6.50 |
| **OHIO** (Quotations of S. O. Ohio. Delivered any point in Ohio) | | | |
| U. S. Motor gasoline | 8.50 | 8.50 | 8.375 |
| Above 65 octane no. | 8.75 | 8.75 | 8.625 |

## Natural Gasoline

(Prices shown f.o.b. Group 3 and Breckenridge represent majority of quotations or sales to blenders on freight basis shown below. Shipments, however, may originate in other Mid-Continent manufacturing districts, such as Panhandle Texas, Southwest Texas or Kansas.)

| | | | |
|---|---|---|---|
| **F.O.B. GROUP 3** | | | |
| Grade 26-70 | 4.75 | 4.75 | 4.50 |
| **F.O.B. BRECKENRIDGE** | | | |
| Grade 26-70 | 4.625 | 4.625 | 4.25 |
| **CALIFORNIA** (F.o.b. plants in Los Angeles basin) | | | |
| 75-85, 375-390 e.p. for blending | 7.50 - 7.75 | 7.50 - 8.00 | 7.25 - 7.75 |

## Kerosine

**WESTERN PENNA.** (Representing majority of quotations or sales)

| | | | |
|---|---|---|---|
| *Bradford-Warren*: | | | |
| 45 w.w. kerosine | 4.75 - 4.875 | 4.75 - 4.875 | 4.75 - 4.875 |
| 46 w.w. kerosine | 4.875- 5.00 | 4.875- 5.00 | 4.875- 5.00 |
| 47 w.w. kerosine | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |
| *Other districts*: | | | |
| 45 w.w kerosine | 4.75 - 4.875 | 4.75 - 4.875 | 4.75 - 4.875 |
| 46 w.w. kerosine | 4.875- 5.00 | 4.875- 5.00 | 4.875- 5.00 |
| 47 w.w. kerosine | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |
| **OKLAHOMA** (Representing majority of quotations or sales, f.o.b. Oklahoma refineries) | | | |
| 41-43 w.w. kerosine | 3.50 - 3.625 | 3.50 - 3.625 | 3.375- 3.50 |
| 42-44 w.w. kerosine | 3.625- 3.75 | 3.625- 3.75 | 3.50 - 3.625 |
| **KANSAS** (F.o.b. refinery Kansas destination) | | | |
| 41-43 w.w. kerosine | 3.75 | 3.625- 3.75 | 3.625- 3.75 |
| 42-44 w.w. kerosine | 3.875 | 3.75 - 3.875 | 3.75 - 3.875 |
| **†NORTH TEXAS** (Prices represent majority of quotations or sales, f.o.b. Wichita Falls district for shipment to Texas and New Mexico destinations; Group 3 prices quoted on northern shipments) | | | |
| 41-43 w.w. kerosine | 3.50 - 3.625 | 3.50 - 3.625 | 3.50 - 3.625 |
| **†EAST TEXAS** (Prices represent majority of quotations or sales, f.o.b. East Texas refinery for unrestricted shipment unless otherwise noted) | | | |
| 41-43 w.w. kerosine | *3.50 | *3.50 | *3.375- 3.50 |

*Nominal.

| | | | |
|---|---|---|---|
| **NORTH LOUISIANA** (Prices representing majority of quotations or sales, f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas) | | | |
| 41-43 w.w. kerosine | 3.75 - 4.00 | 3.75 - 3.875 | 3.75 - 3.875 |
| **ARKANSAS** (Prices representing majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana) | | | |
| 41-43 w.w. kerosine | *4.00 - 4.25 | *4.00 - 4.25 | *4.00 - 4.25 |

*Only one refiner quoting.

| | | | |
|---|---|---|---|
| **CALIFORNIA** (F.o.b. California refineries) | | | |
| 38-40 w.w. kerosine | 4.00 - 5.00 | 4.00 - 5.00 | 4.00 - 5.00 |

## Gas and Fuel Oils

| | | | |
|---|---|---|---|
| **WESTERN PENNA.** (Prices representing majority of quotations or sales) | | | |
| *Bradford-Warren*: | | | |
| 36-40 fuel oil | 4.50 - 4.625 | 4.50 - 4.625 | 4.50 - 4.625 |
| *Other districts*: (Excluding Pittsburgh District Prices) | | | |
| 36-40 fuel oil | 4.50 - 4.625 | 4.50 - 4.625 | 4.50 - 4.625 |
| **OKLAHOMA** (Prices representing majority of quotations or sales, f.o.b. Oklahoma refineries) | | | |
| No. 1 white fuel oil | 3.50 | 3.375- 3.50 | 3.375- 3.50 |
| No. 1 straw fuel oil | 3.375 | 3.25 - 3.375 | 3.25 - 3.375 |
| No. 2 straw fuel oil | 3.25 - 3.50 | 3.25 - 3.375 | 3.25 |
| No. 2 dark fuel oil | 3.25 - 3.375 | 3.125- 3.25 | 3.125- 3.25 |
| U. G. I. gas oil | 2.50 - 2.625 | 2.50 - 2.625 | 2.50 - 2.625 |

(*Continued on next page*)

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

**Oklahoma** (cont'd)

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| **Fuel Oils:** (Prices per barrel of 42 U. S. gallons) | | | |
| 28-30 zero | 3.125– 3.25 | 3.00 – 3.125 | 3.00 – 3.125 |
| 28-30 | $1.05 –$1.10 | $1.05 –$1.10 | $1.05 –$1.10 |
| 24-26 | $0.775–$0.80 | $0.775–$0.80 | $0.775–$0.80 |
| 18-22 | $0.75 –$0.775 | $0.75 –$0.775 | $0.75 –$0.775 |
| 14-16 | $0.675–$0.70 | $0.65 –$0.675 | $0.65 –$0.675 |

**KANSAS** (F.o.b. refinery, Kansas destination)

| | | | |
|---|---|---|---|
| No. 1 p.w. fuel oil | 3.625– 3.875 | 3.625– 3.75 | 3.75 |
| 18-22 fuel oil (per bbl.) | $0.75 –$0.80 | $0.75 –$0.80 | $0.75 –$0.80 |
| 10-14 fuel oil (per bbl.) | $0.725–$0.75 | $0.725–$0.75 | $0.725–$0.75 |

**NORTH TEXAS** (Prices represent majority of quotations or sales, f.o.b. Wichita Falls district for shipment to Texas and New Mexico; Group 3 prices quoted on northern shipments).

| | | | |
|---|---|---|---|
| No. 1 straw, fuel oil | *3.375 | *3.25 – 3.375 | *3.25 – 3.375 |
| No. 1 white, fuel oil | 3.50 | 3.375– 3.50 | 3.375– 3.50 |
| U.G.I. gas oil | 2.50 – 2.625 | 2.50 – 2.625 | 2.50 – 2.625 |
| No. 2 fuel oil | *3.25 – 3.375 | *3.25 | *3.25 |
| 24-26 fuel oil (per bbl.) | $0.725–$0.75 | $0.725–$0.75 | $0.725–$0.75 |
| 18-22 fuel oil (per bbl.) | $0.65 –$0.675 | $0.65 –$0.675 | $0.65 –$0.675 |

*Nominal.

**WEST TEXAS** (Prices represent majority of quotations or sales, f.o.b. West Texas refineries for unrestricted shipment unless otherwise noted).

| | | | |
|---|---|---|---|
| No. 2 fuel oil | *3.25 – 3.375 | *3.25 | *3.25 |
| 18-22 fuel oil (per bbl.) | $0.675–$0.70 | $0.675–$0.70 | $0.675–$0.70 |

*Nominal.

**EAST TEXAS** (Prices represent majority of quotations or sales, f.o.b. East Texas refineries for unrestricted shipment unless otherwise noted)

| | | | |
|---|---|---|---|
| No. 1 white, fuel oil | *3.375– 3.50 | *3.375 | *3.25 – 3.375 |
| U.G.I. gas oil | *2.50 – 2.625 | 2.50 – 2.625 | 2.50 – 2.625 |
| No. 2 fuel oil | *3.25 – 3.375 | *3.125– 3.25 | *3.125– 3.25 |
| 24-26 fuel oil (per bbl.) | $0.65 –$0.675 | $0.65 –$0.675 | $0.65 –$0.675 |
| 20-24 fuel oil (per bbl.) | *$0.65 | $0.65 | $0.65 |

*Nominal.

**NORTH LOUISIANA** (Prices represent majority of quotations or sales, f.o.b. Louisiana refineries, for shipment within Louisiana and into Arkansas)

| | | | |
|---|---|---|---|
| No. 2 fuel oil | 3.375– 3.50 | 3.25 – 3.375 | 3.25 – 3.375 |
| U.G.I. gas oil | 2.625 | 2.625 | 2.625 |
| 20-24 fuel oil (per bbl.) | $1.05 –$1.10 | $1.05 –$1.10 | $1.05 –$1.10 |
| 16-20 fuel oil (per bbl.) | $0.95 –$1.00 | $0.95 –$1.00 | $0.95 –$1.00 |
| 10-14 fuel oil (per bbl.) | $0.70 –$0.75 | $0.70 –$0.75 | $0.70 –$0.75 |

**ARKANSAS** (Prices represent majority of quotations or sales, f.o.b. Arkansas refineries, for shipment within Arkansas and into Louisiana)

| | | | |
|---|---|---|---|
| No. 2 fuel oil | *3.75 | *3.50 | 3.50 |
| 28-30 gas oil, zero | *3.50 | *3.25 | *3.25 |
| 20-24 fuel oil (per bbl.) | $0.825–$0.875 | $0.825–$0.875 | $0.825–$0.875 |
| 16-20 fuel oil (per bbl.) | $0.725–$0.775 | $0.725–$0.775 | $0.725–$0.775 |
| 10-14 fuel oil (per bbl.) | $0.60 –$0.65 | $0.60 –$0.65 | $0.60 –$0.65 |

*Only one refiner quoting.

**CALIFORNIA**

| | | | |
|---|---|---|---|
| *San Joaquin Valley*, per bbl.: | | | |
| Grade C fuel oil | $0.60 –$0.75 | $0.60 –$0.75 | $0.60 –$0.75 |
| Diesel fuel oil | $0.90 –$1.47 | $0.90 –$1.47 | $0.90 –$1.47 |
| Stove distillate | $1.25 –$1.89 | $1.25 –$1.89 | $1.25 –$1.89 |
| *Los Angeles*, per bbl.: | | | |
| Grade C fuel oil | $0.65 –$0.95 | $0.65 –$0.95 | $0.65 –$0.95 |
| Diesel fuel | $0.95 –$1.47 | $0.95 –$1.47 | $0.95 –$1.47 |
| Stove distillate | $1.20 –$1.89 | $1.20 –$1.89 | $1.20 –$1.89 |
| *San Francisco*, per bbl.: | | | |
| Grade C fuel oil | $1.00 | $1.00 | $1.00 |
| Diesel fuel | $1.68 | $1.68 | $1.68 |
| Stove distillate | $2.10 | $2.10 | $2.10 |

## Neutral Oils

**WESTERN PENNA.** (Prices represent majority of quotations or sales)

| | *Viscous Neutrals* (*Viscosity at 70° F.*) | | |
|---|---|---|---|
| 200 Vis. (180 at 100°) No. 3 color, 420-425 flash: | | | |
| 0 pour test | 25.00 –25.50 | 25.00 –25.50 | 24.50 –25.00 |
| 10 pour test | 24.00 –24.50 | 24.00 –24.50 | 23.50 –24.00 |
| 15 pour test | 23.50 –24.00 | 23.50 –24.00 | 23.00 –23.50 |
| 25 pour test | 22.50 –23.00 | 22.50 –23.00 | 22.00 –22.50 |
| 180 Vis. (165 at 100) No. 3 color, 410-415 flash: | | | |
| 25 pour test | 21.50 –22.00 | 21.50 –22.00 | 21.00 –21.50 |
| 150 Vis. (143 at 100) No. 3 color, 400-405 flash: | | | |
| 0 pour test | 21.50 –22.00 | 21.50 –22.00 | 21.00 –21.50 |
| 10 pour test | 20.50 –21.00 | 20.50 –21.00 | 20.00 –20.50 |
| 15 pour test | 20.00 –20.50 | 20.00 –20.50 | 19.50 –20.00 |
| 25 pour test | 19.00 –19.50 | 19.00 –19.50 | 18.50 –19.00 |

**SOUTH TEXAS** (Quotations of majority of sellers for tank car lots, f.o.b. South Texas refineries, for domestic shipment)

| **Vis. Color** Pale Oils: | (*Viscosity at 100° F.; pour test 0*) | | |
|---|---|---|---|
| 100 No. 1½-2½ | 5.00 | 5.00 | 5.00 |
| 200 No. 2-3 | 7.00 | 7.00 | 7.00 |
| 300 No. 2-3 | 7.50 | 7.50 | 7.50 |
| 500 No. 2½-3½ | 8.50 | 8.50 | 8.50 |
| 750 No. 3-4 | 9.00 | 9.00 | 9.00 |
| 1200 No. 3-4 | 9.50 | 9.50 | 9.50 |
| 2000 No. 4 | 10.00 | 10.00 | 10.00 |

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| Red Oils: | | | |
| 200 No. 5-6 | 7.00 | 7.00 | 7.00 |
| 300 No. 5-6 | 7.50 | 7.50 | 7.50 |
| 500 No. 5-6 | 8.50 | 8.50 | 8.50 |
| 750 No. 5-6 | 9.00 | 9.00 | 9.00 |
| 1200 No. 5-6 | 9.50 | 9.50 | 9.50 |
| 2000 No. 5-6 | 10.00 | 10.00 | 10.00 |

Note: South Texas red oil prices shown above cover oils with green cast; blue cast red oils are slightly lower in some cases.

**MID-CONTINENT** (Viscosity at 100° F.; F.o.b. Tulsa basis. Prices represent majority of quotations or sales)

| | **(0 to 10 Pour Point)** | | |
|---|---|---|---|
| Pale Oils **Vis. Color** | | | |
| 60-85—No. 2 | 5.25 | 5.25 | 5.25 |
| 86-110—No. 2 | 5.75 | 5.75 | 5.75 |
| 150—No. 3 | 8.50 | 8.50 | 8.50 |
| 180—No. 3 | 9.50 | 9.50 | 9.50 |
| 200—No. 3 | 10.00 | 10.00 | 10.00 |
| 250—No. 3 | 11.00 | 11.00 | 11.00 |
| 280—No. 3 | 12.00 | 12.00 | 12.00 |
| 300—No. 3 | 12.50 | 12.50 | 12.50 |
| Red Oils: | | | |
| 180—No. 5 | 8.50 | 8.50 | 8.50 |
| 200—No. 5 | 9.00 | 9.00 | 9.00 |
| 250—No. 5 | 10.00 | 10.00 | 10.00 |
| 280—No. 5 | 11.00 | 11.00 | 11.00 |
| 300—No. 5 | 11.25 | 11.25 | 11.25 |

Note: Viscous and non-viscous oils, 15 to 25 pour point are generally quoted 0.5c under 0 to 10 pour point oils. Viscous oils (150-300 vis.), No. 4 color, are generally quoted 0.5c above No. 5 color oils.

**CHICAGO** (F.o.b. Chicago District refineries) (Vis. at 100° F.)

| | | | |
|---|---|---|---|
| Pale Oils *15 to 30 pour point: **Vis. Color** | | | |
| 60-85—No. 2 | 6.50 | 6.50 | 6.50 |
| 86-110—No. 2 | 7.00 | 7.00 | 7.00 |
| 150—No. 3 | 8.50 | 7.50 | 7.50 |
| 180—No. 3 | 9.00 | 8.00 | 8.00 |
| 200—No. 3 | 9.50 | 8.50 | 8.50 |
| 250—No. 3 | 10.50 | 9.50 | 9.50 |
| Red Oils *15 to 30 Pour Point: | | | |
| 180—No. 5 | 8.50 | 7.50 | 7.50 |
| 200—No. 5 | 8.50 | 7.50 | 7.50 |
| 250—No. 5 | 9.50 | 8.50 | 8.50 |
| 280—No. 5 | 11.50 | 10.50 | 10.50 |
| 300—No. 5 | 12.00 | 11.00 | 11.00 |

*Oils with 0-10 pour point are quoted at 0.5c higher. To obtain prices delivered in Chicago add 0.25c per gal.

**CALIFORNIA** (F.o.b. California refineries; Viscosity at 100° F.)
Neutral oils not now being quoted.

## Cylinder Stocks

**MID-CONTINENT** (F.o.b. Tulsa basis. Prices represent majority of quotations or sales)

| | | | |
|---|---|---|---|
| Bright Stocks: | | | |
| 190-200 Vis. at 210° D | 20.00 | 20.00 | 20.00 |
| 150-160 Vis. at 210° D: | | | |
| 0 to 10 pour test | 17.00 | 17.00 | 17.00 |
| 10 to 25 pour test | 16.50 | 16.50 | 16.50 |
| 25 to 40 pour test | 16.00 | 16.00 | 16.00 |
| 150-160 Vis. at 210° E | 16.00 | 16.00 | 16.00 |
| 120 Vis. at 210° D: | | | |
| 0 to 10 pour test | 16.00 | 16.00 | 16.00 |
| 10 to 25 pour test | 15.50 | 15.50 | 15.50 |
| 25 to 40 pour test | 15.00 | 15.00 | 15.00 |
| 600 Stm. Rfd. Dark Green | 5.00 – 5.75 | 5.00 – 5.75 | 5.00 – 5.75 |
| 600 Stm. Rfd. Olive Green | 6.50 – 7.50 | 6.50 – 7.50 | 6.50 – 7.50 |
| 631 Steam Refined | *13.00 | *13.00 | *13.00 |
| Black Oil | 3.25 – 3.375 | 3.25 – 3.375 | 3.25 – 3.375 |

*Only one refiner quoting.

**CHICAGO** (F.o.b. Chicago district refineries) (Viscosity at 210°)

| | | | |
|---|---|---|---|
| Unfiltered Steam Refined: | | | |
| 140 | 9.00 | 9.00 | 9.00 |
| 160 | 10.00 | 10.00 | 10.00 |
| 200 | 11.00 | 11.00 | 11.00 |
| Bright stocks, 160 vis. at 210 No. 8 color: | | | |
| 0 to 10 pour point | 18.75 | 18.75 | 18.75 |
| 15 to 25 pour point | 18.25 | 18.25 | 18.25 |
| 30 to 40 pour point | 17.75 | 17.75 | 17.75 |
| E filtered Cyl. Stock | 14.50 | 14.50 | 14.50 |

To obtain prices delivered in Chicago, add 0.25c per gal.

**WESTERN PENNA.** (A.S.T.M. tests; prices representing majority of quotations or sales, to car unloaders)

| | | | |
|---|---|---|---|
| 600 stm. rfd. filterable | 13.00 –13.50 | 13.00 –13.50 | 12.50 –13.00 |
| 650 steam refined | 14.00 –14.50 | 14.00 –14.50 | 14.00 –14.50 |

*(Continued on next page)*

# REFINERY TANK CAR MARKETS

*Prices in cents per gallon, tank car lots, except where otherwise noted. Inter-refinery and export prices not included. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude.*

## Cylinder Stocks (cont'd)

**Western Pennsylvania** (cont'd)

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 600 flash | 15.00 -15.50 | 15.00 -15.50 | 15.00 -15.50 |
| 630 flash | 17.00 -17.50 | 17.00 -17.50 | 17.00 -17.50 |
| 600 Warren E. | 16.00 -16.50 | 16.00 -16.50 | 16.00 -16.50 |
| Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color: | | | |
| 10 pour test | 23.50 -24.00 | 23.50 -24.00 | 23.50 -24.00 |
| 15 pour test | 22.50 -23.00 | 22.50 -23.00 | 22.50 -23.00 |
| 20 pour test | 21.50 -22.00 | 21.50 -22.00 | 21.50 -22.00 |
| 25 pour test | 20.50 -21.00 | 20.50 -21.00 | 20.50 -21.00 |

## Petrolatums

**WESTERN PENNA.** (Per pound, in barrels, carload lots, f.o.b. Penna. refinery. In tank cars, 0.5c per pound less. Quotations by majority of refiners making petrolatums)

| | | | |
|---|---|---|---|
| Snow White | 6.625 | 6.625 | 6.625 |
| Lily White | 5.625 | 5.625 | 5.625 |
| Cream White | 4.625 | 4.625 | 4.625 |
| Light Amber | 2.75 | 2.75 | 2.75 |
| Amber | 2.50 | 2.50 | 2.50 |
| Red | 2.00 - 2.125 | 2.00 - 2.125 | 2.00 - 2.125 |

## Wax

| | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| **WESTERN PENNA.** (Prices represent majority of quotations or sales, per pound, f.o.b. New York) | | | |
| 122-124 wh. crude scale, A.m.p. | 2.40 - 2.45 | 2.40 - 2.45 | 2.40 - 2.45 |
| 124-126 wh. crude scale, A.m.p. | 2.45 - 2.50 | 2.45 - 2.50 | 2.45 - 2.50 |
| **OKLAHOMA** (Representing majority of quotations or sales, per pound in barrels; in a few instances, per pound in burlap bags; f.o.b. Oklahoma refineries) | | | |
| 124-126 wh. crude scale, A.m.p. | 2.625 | 2.625 | 2.625 |
| **CHICAGO** (Quotations of majority of sellers f.o.b. Chicago district refineries in bags, carload lots. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.) | | | |
| *Fully refined:* | | | |
| 122-124 | 4.65 - 4.75 | 4.65 - 4.75 | 4.65 - 4.75 |
| 125-127 | 4.90 - 5.00 | 4.90 - 5.00 | 4.90 - 5.00 |
| 127-129 | 5.05 - 5.15 | 5.05 - 5.15 | 5.05 - 5.15 |
| 130-132 | *5.45 - 5.55 | *5.45 - 5.55 | *5.45 - 5.55 |
| 132-134 | *5.70 - 5.80 | *5.70 - 5.80 | *5.70 - 5.80 |
| 135-137 | *6.45 - 6.55 | *6.45 - 6.55 | *6.45 - 6.55 |

*Same prices quoted in bags or slabs loose.

# MID-WESTERN TANK CAR MARKETS

*Prices in cents per gallon, except where otherwise noted, in tank car lots, representing majority of quotations or sales made by Chicago sellers, from legally produced crude to jobbers on Group 3 (Oklahoma) freight basis, although shipments may originate in other South-western or Mid-western refining districts. Prices do not include state or federal taxes.*

## Gasoline

| U.S. Motor gasoline: | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 62 octane and below | 4.625- 4.875 | 4.625- 4.875 | 4.50 - 4.75 |
| 63-67 octane | 5.00 - 5.25 | 5.00 - 5.25 | 4.75 - 5.25 |
| 68-70 octane (regular) | 5.50 - 5.875 | 5.50 - 5.875 | 5.375- 5.625 |
| 60-62, 400 e.p. | 4.625- 4.875 | 4.625- 4.875 | 4.625- 4.75 |
| 64-66, 375 e.p. | 5.00 - 5.125 | 5.00 - 5.125 | 5.00 - 5.125 |
| 68-70, 350-360 e.p. | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 |

## Kerosine

| | | | |
|---|---|---|---|
| 41-43 w.w. | 3.50 - 3.625 | 3.50 - 3.625 | 3.375- 3.50 |
| 42-44 w.w. | 3.625- 3.75 | 3.625- 3.75 | 3.50 - 3.625 |

## Fuel and Gas Oils

| Domestic: | | | |
|---|---|---|---|
| No. 1 prime white | 3.50 - 3.625 | 3.375- 3.50 | 3.375- 3.50 |
| No. 1 straw | 3.375- 3.50 | 3.25 - 3.375 | 3.25 - 3.375 |
| No. 2 straw | 3.25 - 3.375 | 3.125- 3.25 | 3.125- 3.25 |
| No. 2 dark | 3.125- 3.25 | 3.00 - 3.125 | 3.00 - 3.125 |
| No. 3 | 3.125- 3.25 | 3.00 - 3.125 | 3.00 - 3.125 |
| No. 4 (per bbl.) | $0.95 -$1.00 | $0.95 -$1.00 | $0.95 -$1.00 |
| No. 5 (per bbl.) | $0.75 -$0.80 | $0.75 -$0.80 | $0.725-$0.75 |
| Industrial: | | | |
| No. 4 (per bbl.) | $0.85 -$0.90 | $0.85 -$0.90 | $0.85 -$0.90 |
| No. 5 (per bbl.) | $0.65 -$0.70 | $0.65 -$0.675 | $0.65 -$0.675 |
| No. 6 (per bbl.) | $0.60 -$0.65 | $0.60 -$0.625 | $0.575-$0.60 |
| U.G.I. gas oil | 2.50 - 2.625 | 2.50 - 2.625 | 2.50 - 2.625 |

## Naphtha and Solvent

(Tank car prices quoted f.o.b. Group 3 by majority of Chicago sellers)

| | | | |
|---|---|---|---|
| Stoddard solvent | 6.875 | 6.875 | 6.875 |
| V. M. & P. naphtha | 7.375 | 7.375 | 7.375 |
| Cleaners' naphtha | 7.375 | 7.375 | 7.375 |
| Mineral spirits | 6.375 | 6.375 | 6.375 |
| Rubber solvent | 7.375 | 7.375 | 7.375 |
| Lacquer diluent | 8.375 | 8.375 | 8.375 |

# DAILY GASOLINE PRICES

*Daily range of gasoline prices (cents per gallon) in tank cars, as reported in PLATT'S OILGRAM, (Week Ended Nov. 27, 1936)*

| | Nov. 23 | Nov. 24 | Nov. 25 | Nov. 27 | |
|---|---|---|---|---|---|
| **U. S. Motor, 62 octane and below:** | | | | | |
| East Texas | †4.625 | †4.625 | †4.625 | †4.625 | ..... |
| *North Texas | 4.75 | 4.75 | 4.75 | 4.75 | ..... |
| West Texas | 4.75 | 4.75 | 4.75 | 4.75 | ..... |
| Oklahoma | 4.75 | 4.75 | 4.75 | 4.75 | ..... |
| Mid-Western (Group 3 basis) | 4.625- 4.875 | 4.625- 4.875 | 4.625- 4.875 | 4.625- 4.875 | ..... |
| **U. S. Motor, 63-67 octane:** | | | | | |
| *North Texas | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 | ..... |
| West Texas | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 | 5.125- 5.25 | ..... |
| Oklahoma | 5.125- 5.375 | 5.125- 5.375 | 5.125- 5.375 | 5.125- 5.375 | ..... |
| Mid-Western (Group 3 basis) | 5.00 - 5.25 | 5.00 - 5.25 | 5.00 - 5.25 | 5.00 - 5.25 | ..... |
| **U. S. Motor, 68-70 octane (regular)** | | | | | |
| *North Texas | 5.75 | 5.75 | 5.75 | 5.75 | ..... |
| West Texas | 5.75 | 5.75 | 5.75 | 5.75 | ..... |
| Oklahoma | 5.75 | 5.75 | 5.75 | 5.75 | ..... |
| Mid-Western (Group 3 basis) | 5.50 - 5.875 | 5.50 - 5.875 | 5.50 - 5.875 | 5.50 - 5.875 | ..... |
| **Motor Gasoline, 60-64 octane** | | | | | |
| New York harbor | 6.25 - 6.50 | 6.25 | 6.25 | 6.25 | ..... |
| Philadelphia district | 6.50 | 6.50 | 6.50 | 6.50 | ..... |
| Baltimore district | 6.50 | 6.50 | 6.50 | 6.50 | ..... |
| **Motor Gasoline, 65 octane & above** | | | | | |
| New York harbor | 6.50 - 6.75 | 6.50 | 6.50 | 6.50 | ..... |
| Philadelphia district | 6.50 - 6.75 | 6.50 - 6.75 | 6.50 - 6.75 | 6.50 - 6.75 | ..... |
| Baltimore district | 6.75 | 6.75 | 6.75 | 6.75 | ..... |
| **U. S. Motor Gasoline, 58-62°** | | | | | |
| Bradford-Warren (Western Penna.) | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 | ..... |
| Other districts (Western Penna.) | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 | 5.50 - 5.625 | ..... |
| **Motor Gasoline, Minimum 60 octane** | | | | | |
| Bradford-Warren (Western Penna.) | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | ..... |
| Other districts (Western Penna.) | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | 7.00 - 7.125 | ..... |
| **Motor Gasoline, Minimum 65 octane** | | | | | |
| Bradford-Warren (Western Penna.) | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 | ..... |
| Other districts (Western Penna.) | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 | 7.25 - 7.375 | ..... |

*For shipment to Texas and New Mexico destinations; Group 3 prices are quoted on northern shipments.
†Nominal.

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# MARATHON PRODUCTS

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov. 30, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

## S. O. New Jersey

**ESSOLENE**

| | Consumer Tank Car | Dealer T.W. | Taxes | Posted S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Atlantic City, N. J. | 7 | 8.5 | 4 | * | 9 |
| Newark, N. J. | 7 | 8.5 | 4 | * | 7.5 |
| Annapolis, Md. | 8.1 | 9.6 | 5 | * | 10 |
| Baltimore, Md. | 7.5 | 9 | 5 | * | 8 |
| Cumberland, Md. | 9.1 | 11.6 | 5 | * | 10 |
| Washington, D. C. | 7.5 | 9 | 3 | 15.5 | 9 |
| Danville, Va. | 8.7 | 11.2 | 6 | 20.7 | 12.9 |
| Norfolk, Va. | 7.5 | 10 | 6 | * | 11.3 |
| Petersburg, Va. | 7.8 | 10.3 | 6 | 19.8 | 11.7 |
| Richmond, Va. | 7.8 | 10.3 | 6 | 19.8 | 11.7 |
| Roanoke, Va. | 9 | 11.5 | 6 | 21 | 12.9 |
| Charleston, W. Va. | 8.3 | 10.8 | 5 | * | 12.6 |
| Parkersburg, W. Va. | 7.6 | 10.1 | 5 | * | 11.2 |
| Wheeling, W. Va. | 8.5 | 10 | 5 | * | 12.2 |
| Charlotte, N. C. | 8.9 | 11.4 | 7 | * | 12.6 |
| Hickory, N. C. | 9.4 | 11.9 | 7 | * | 13 |
| Mt. Airy, N. C. | 9.2 | 11.7 | 7 | * | 12.8 |
| Raleigh, N. C. | 8.5 | 11 | 7 | * | 12.1 |
| Salisbury, N. C. | 9 | 11.5 | 7 | * | 12.7 |
| Charleston, S. C. | 7.5 | 10 | 7 | 20.5 | 11.1 |
| Columbia, S. C. | 8.5 | 11 | 7 | 21.5 | 12.1 |
| Spartanburg, S. C. | 9.2 | 11.7 | 7 | 22.2 | 12.9 |

*S. O. New Jersey transferred stations to dealers; no prices available.

*Price basis to undivided dealers*: Dealer t.w. price less 0.5c per gal.

*Price basis to commercial consumers*: Effective Nov. 2, 1936, in New Jersey, Maryland, District of Columbia, and small portions of Virginia and West Virginia, to contract and non-contract accounts, taking following deliveries at one time, by hose connection, prices based on consumer tank car price in effect at time and place of delivery: 500 gals. or more, 0.5c over t.c. price; less than 500 gals., 0.75c over; accounts not taking deliveries by hose connection, 1c over t.c.

Effective Feb. 11, 1935, in North and South Carolina, and greater portions of Virginia and West Virginia, the following differentials apply above posted tank car price, on yearly purchases: up to 35,999 gals., 2.5c over t.c.; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c. Non-contract accounts, 2.5c over posted t.c. price.

*Kerosine Discount*: 1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

## Socony-Vacuum Oil Co., Inc.

*(S. O. New York Division)*

**SOCONY MOBILGAS**

| | "Split" Dealer T.W. | Taxes | Total "Split" Dealer T.W. | †S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens) | 8.7 | *4 | 12.7 | ... | 7.25 |
| Borough of Richmond (Staten Is.) | 9 | *4 | 13 | ... | 7.25 |
| Albany, N. Y. | 8.7 | 4 | 12.7 | ... | 7.75 |
| Binghamton, N. Y. | 10 | 4 | 14 | ... | 8.5 |
| Buffalo, N. Y. | 9.5 | 4 | 13.5 | ... | 8.25 |
| Jamestown, N. Y. | 10 | 4 | 14 | ... | 8.25 |
| Plattsburg, N. Y. | 9.7 | 4 | 13.7 | ... | 8.75 |
| Rochester, N. Y. | 9.5 | 4 | 13.5 | ... | 8.25 |
| Syracuse, N. Y. | 9.5 | 4 | 13.5 | ... | 8.5 |
| Danbury, Conn. | 9 | 4 | 13 | ... | 8 |
| Hartford, Conn. | 8.9 | 4 | 12.9 | ... | 7 |
| New Haven, Conn. | 8.8 | 4 | 12.8 | ... | 7.5 |
| Bangor, Me. | 10 | 5 | 15 | ... | 6.5 |
| Portland, Me. | 9.5 | 5 | 14.5 | ... | 7.75 |
| Boston, Mass. | 8.5 | 4 | 12.5 | ... | 7.5 |
| Concord, N. H. | 10.5 | 5 | 15.5 | ... | 8.5 |
| Lancaster, N. H. | 11.5 | 5 | 16.5 | ... | 9.5 |
| Manchester, N. H. | 10 | 5 | 15 | ... | 8 |
| Providence, R. I. | 8.5 | 3 | 11.5 | ... | 7.25 |
| Burlington, Vt. | 9.7 | 5 | 14.7 | ... | 8.75 |
| Rutland, Vt. | 10 | 5 | 15 | ... | 8.5 |

*Plus 2% city sales tax computed at time of each sale.

†Socony-Vacuum transferred stations to dealers; no prices available.

*Price basis to undivided dealers*: 0.5c less than "split" dealer t.w.

*Price basis to commercial consumers*: Effective about Nov. 15, 1936 in New York and New England, for tank wagon delivery: monthly purchases of 25,000 gals. or over, pay consumer tank car price at point of delivery, plus 0.5c gal.; monthly purchases of 5,000 to 25,000 gals., pay undivided dealer tank wagon price at point of delivery; monthly purchases of less than 5,000 gals., pay divided dealer tank wagon price at point of delivery. Private consumers pay undivided dealer tank wagon price at point of delivery, plus 2c gal.

## Atlantic Refining

**ATLANTIC WHITE FLASH PLUS GASOLINE**

| | Dealer T.W. | Taxes | Total Dealer T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Philadelphia, Pa. | 8.5 | 5 | 13.5 | 16 | 9.5 |
| Pittsburgh, Pa. | 11 | 5 | 16 | 19.5 | 10 |
| Allentown, Pa. | 9 | 5 | 14 | ** | 10 |
| Erie, Pa. | 10 | 5 | 15 | ** | 10 |
| Scranton, Pa. | 9 | 5 | 14 | ** | 10 |
| Altoona, Pa. | 11 | 5 | 16 | ** | 10 |
| Dover, Del. | 9 | 5 | 14 | ** | 10 |
| Wilmington, Del. | 8 | 5 | 13 | ** | 10 |
| Boston, Mass. | 8.5 | 4 | 12.5 | ** | 7 |
| Springfield, Mass. | 9 | 4 | 13 | ** | 7 |
| Worcester, Mass. | 9.5 | 4 | 13.5 | ** | 7.75 |
| Fall River, Mass. | 8.5 | 4 | 12.5 | ** | 7 |
| Hartford, Conn. | 8.9 | 4 | 12.9 | ** | 7 |
| New Haven, Conn. | 8.8 | 4 | 12.8 | ** | 7.5 |
| Providence, R. I. | 8.5 | 3 | 11.5 | ** | 7 |
| Atlantic City, N. J. | 8.5 | 4 | 12.5 | ** | 9 |
| Camden, N. J. | 8.5 | 4 | 12.5 | ** | 8 |
| Trenton, N. J. | 8.5 | 4 | 12.5 | ** | 8 |
| Annapolis, Md. | 9.6 | 5 | 14.6 | ** | 9.5 |
| Baltimore, Md. | 9 | 5 | 14 | ** | 8 |
| Hagerstown, Md. | 10 | 5 | 15 | ** | 10 |
| Richmond, Va. | 10.3 | 6 | 16.3 | ** | 11.7 |
| Wilmington, N. C. | 10.1 | 7 | 17.1 | ** | 11.3 |
| Brunswick, Ga. | 10.5 | 7 | 17.5 | ** | *12.5 |
| Jacksonville, Fla. | 8.5 | 8 | 16.5 | ** | 11.5 |

*Georgia has kerosine tax of 1c per gal., not included in above price.

**Atlantic Refining transferred stations to dealers; no prices available.

*Price basis to undivided dealers*: Dealer t.w. less 0.5c per gal.

*Price basis to commercial consumer*: Effective Nov. 5, 1936, on yearly gasoline purchases to contract accounts taking t.w. deliveries, based on posted tank car prices plus following amounts: 2,500 to 100,000 gals., 1c over t.c.; 100,000 gals., and over, 0.5c. Non-contract accounts taking 50 gals. or over at one time pay dealer t.w. price.

## S. O. Ohio

**SOHIO X-70 GASOLINE**

| | Consumer T.W. | Tax | Total Consumer T.W. | |
|---|---|---|---|---|
| *Ohio Statewide* | 12.5 | 5 | 17.5 | ‡ *13.5 |
| Counties below statewide gasoline schedule: Ashtabula, Butler, Champaign, Clarke, Clermont, Columbiana, Darke, Defiance, Delaware, Fayette, Fairfield, Franklin, Greene, Hamilton, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Marion, Miami, Montgomery, Morrow, Muskingum, Pickaway, Preble, Ross, Trumble and Warren | 11.5 | 5 | 16.5 | ... ... |
| Paulding | 11 | 5 | 16 | ... ... |

**RENOWN**
***(Third Grade Gasoline)***

| | | | | | |
|---|---|---|---|---|---|
| *Ohio Statewide* | 12 | 5 | 17 | ‡ | ... |
| Counties below statewide gasoline schedule: Butler, Clermont, Darke, Hamilton, Greene, Miami, Montgomery, Preble and Warren: | 11.5 | 5 | 16.5 | ... | ... |
| Ashtabula, Champaign, Clarke, Columbiana, Defiance, Delaware, Fairfield, Fayette, Franklin, Jefferson, Knox, Licking, Lucas, Madison, Mahoning, Marion, Morrow, Muskingum, Pickaway, Ross and Trumbull | 11 | 5 | 16 | ... | ... |
| Paulding | 9 | 5 | 14 | ... | ... |
| Counties above statewide schedule: Hocking and Summit | 12.5 | 5 | 17.5 | ... | ... |

**KEROSINE PRICES**
*(Off Statewide Level)*

Kerosine prices are off statewide level in the following counties:

Gallia ..... *13

Allen, Ashtabula, Auglaize, Champaign, Columbiana, Darke, Fulton, Hancock, Hardin, Henry, Logan, Mahoning, Mercer, Portage, Preble, Putnam, Shelby, Summit, Trumbull, Union, Van Wert and Wyandotte ..... *12.5

Defiance and Paulding ..... *12

## S. O. Ohio—Cont'd

*Statewide Prices to Resellers & Agents*

(These gasoline prices are based on low of Group 3, 68-70 octane, gasoline tank car market as published in Platt's Oilgram, to the nearest 0.5c).

| Including taxes | †Undivided Accounts | Divided Accounts | **Authorized Agents |
|---|---|---|---|
| Sohio X-70 | 16 | 16.5 | 16.5 |
| Renown (3rd grade) | 15.5 | 16 | 16 |

‡Effective Sept. 16, 1936, S. O. Ohio began leasing service stations to dealers. No statewide s.s. price available although the company does post s.s. prices locally at points where it still operates stations.

*Sales tax*: Ohio's 3% sales tax, effective Jan. 27, 1935, is added "where assessable, to regular posted prices," S. O. Ohio says.

*Kerosine prices include 1c state tax.

†Excluding authorized agents.

**Excluding 0.5c rental.

*Discounts to commercial contract tank wagon consumers only*: on all motor gasolines, thru Ohio, effective Sept. 16, 1936, except counties mentioned hereafter, off posted t.w. price, on deliveries per month: 1,000 to 9,999 gals., 1.5c per gal.; 10,000 gals. and over, 2.5c. Under 1,000 gals., posted t.w. price. Single deliveries of less than 25 gals., on X-70 and Ethyl, 2c above consumers, t.w. price; Renown, 1c above. Q. D. A. is off statewide schedule in the following counties: Allen, Ashtabula, Auglaize, Columbiana, Darke, Defiance, Delaware, Franklin, Fulton, Hamilton, Hancock, Hardin, Henry, Jefferson, Knox, Logan, Lucas, Mahoning, Marion, Medina, Mercer, Pickaway, Putnam, Ross, Shelby, Trumbull, Union, Van Wert, Washington and Williams: for this information, write National Petroleum News.

*Discounts on kerosine*: to dealers and commercial consumers, 3c per gal. off t.w. price, any quantity.

## S. O. Kentucky

**CROWN GASOLINE**

| | T.W. | Taxes | Total T.W. | S.S. | Kerosine T.W. |
|---|---|---|---|---|---|
| Lexington, Ky. | 12 | 6 | 18 | 20 | 11 |
| Louisville, Ky. | 12 | 6 | 18 | 20 | 10 |
| Paducah, Ky. | 10.5 | 6 | 16.5 | ** | 8 |
| Covington, Ky. | 11.5 | 6 | 17.5 | 19.5 | 10.5 |
| Jackson, Miss. | 13 | 7 | 20 | 22 | *12.5 |
| Vicksburg, Miss. | 12.5 | 7 | 19.5 | ** | *12.5 |
| Birmingham, Ala. | 13 | *8 | 21 | 23 | 12 |
| Mobile, Ala. | 10 | *9 | 19 | 21 | 11 |
| Montgomery, Ala. | 11.5 | *9 | 20.5 | 21 | *14 |
| Macon, Ga. | 13 | 7 | 20 | 22 | *14 |
| Atlanta, Ga. | 13.5 | 7 | 20.5 | 22.5 | *13 |
| Augusta, Ga. | 12.5 | 7 | 19.5 | ** | *12.5 |
| Savannah, Ga. | 11.5 | 7 | 18.5 | 20.5 | *12.5 |
| Jacksonville, Fla. | 10 | 8 | 18 | 20 | 11.5 |
| Miami, Fla. | 11.5 | 8 | 19.5 | 21.5 | 12.5 |
| Tampa, Fla. | 10.5 | 8 | 19.5 | 20.5 | 11.5 |
| Pensacola, Fla. | 12.5 | *9 | 21.5 | 23.5 | 10.5 |

**KYSO**
***(Third Grade)***

| | | | | | |
|---|---|---|---|---|---|
| Lexington, Ky. | 10.5 | 6 | 16.6 | 18 | .... |
| Louisville, Ky. | 10.5 | 6 | 16.5 | 18 | .... |
| Paducah, Ky. | 7.5 | 6 | 13.5 | ** | .... |
| Covington, Ky. | 10 | 6 | 16 | 17.5 | .... |
| Jackson, Miss. | 11.5 | 7 | 18.5 | 20 | .... |
| Vicksburg, Miss. | 9.5 | 7 | 16.5 | ** | .... |
| Birmingham, Ala. | 11 | *8 | 19 | 20 | .... |
| Mobile, Ala. | 8 | *9 | 17 | 18 | .... |
| Montgomery, Ala. | 8.5 | *9 | 17.5 | 18 | .... |
| Atlanta, Ga. | 10.5 | 7 | 17.5 | 18 | .... |
| Augusta, Ga. | 9 | 7 | 16 | ** | .... |
| Macon, Ga. | 10 | 7 | 17 | 17.5 | .... |
| Pensacola, Fla. | 10.75 | *9 | 19.75 | 21 | .... |

*Dealer Discount*: off posted s.s. price, on Crown and Crown Ethyl gasolines to "undivided" dealers 4c; on Kyso, 3c. To "divided" dealers: Crown and Ethyl, 3.5c, and Kyso, 2.5c, all effective on or about Jan. 1, 1934.

*Discounts to tank wagon consumers*: all single deliveries of 50 gals. or less, get posted s.s. price: all single deliveries of 50 gals. or more, to be billed at posted t.w. price, less following discounts, off posted t.w. price: Ethyl and Crown gasoline, 50 to 2,999 gals. monthly, 1.5c; Kyso, 1c; 3,000 to 24,999 gals., Ethyl and Crown, 2c; Kyso, 1.5c; 25,000 gals. or more, Ethyl and Crown, 3c; and Kyso, 2.5c.

*Taxes*: in the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county, Pensacola, 1c city. Georgia and Mississippi kerosine prices include 1c state tax. Montgomery kerosine price includes 1c city tax.

**S. O. Kentucky transferred stations to dealers; no prices available.

Above prices include these inspection fees on both gasoline and kerosine, per gallon, figured on basis of 50 gallons per barrel:

Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida, 1/8c; Illinois, 3/100c; Indiana, 1/2c per gal. in a single barrel; 3/10c per gal. in lots of 2 to 10 bbls., 1/5c for 10 to 50 bbls., 2/25c for over 50 bbls.; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal., in lots of more than 50 bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 1/25c.

Kerosine inspection fee only: Iowa, 2/25c; Michigan, 4/5c per gal. for first 2 bbls.; 3/5c for next 3; 2/5c for next 5; 3/10c for next 15, and 1/5c per gal. in lots over 25 bbls.

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov. 30, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

## S. O. Indiana

| | Red Crown Tax | Total T.W. | Dealer Prices Red Crown | Stano-lind | Kero-sine T.W. |
|---|---|---|---|---|---|
| Chicago, Ill. | 4 | 15.4 | 13.4 | 13.4 | 9.2 |
| Decatur, Ill. | 4 | 15.4 | 13.9 | 13.9 | 9.2 |
| Joliet, Ill. | 4 | 14.5 | 13.9 | 13 | 9.2 |
| Peoria, Ill. | 4 | 15.4 | 13.9 | 13.9 | 9.2 |
| Quincy, Ill. | 4 | 15.2 | 13.7 | 13.7 | 9.0 |
| Indianapolis, Ind. | 5 | 17.1 | 15.6 | 15.6 | ‡13 |
| Evansville, Ind. | 5 | 16.9 | 15.4 | 15.1 | ‡13.7 |
| South Bend, Ind. | 5 | 17.3 | 15.8 | 16 | ‡13 |
| Detroit, Mich. | 4 | 14.5 | 13 | 13.0 | 8.8 |
| Grand Rapids, Mich. | 4 | 15.4 | 13.9 | 13.9 | 9.3 |
| Saginaw, Mich. | 4 | 15.6 | 14.1 | 14.1 | 10.1 |
| Green Bay, Wis. | 5 | 17.1 | 15.6 | 15.6 | 9.9 |
| Milwaukee, Wis. | 5 | 16.7 | 15.2 | 13.4 | 9.5 |
| La Crosse, Wis. | 5 | 16.8 | 15.3 | 15.3 | 9.6 |
| Minneapolis-St. Paul | 4 | 15.8 | 14.3 | 14.3 | 9.6 |
| Duluth, Minn. | 4 | 16.2 | 14.7 | 14.7 | 10 |
| Mankato, Minn. | 4 | 15.8 | 14.3 | 14.3 | 9.6 |
| Des Moines, Ia. | 4 | 15.2 | 13.7 | 13.3 | 9.0 |
| Sioux City, Ia. | 4 | 15.4 | 13.9 | 13.9 | 9.2 |
| Davenport, Ia. | 4 | 15.4 | 13.9 | 13.9 | 9.2 |
| Mason City, Ia. | 4 | 15.6 | 14.1 | 12.4 | 9.4 |
| St. Louis, Mo | †4 | 15.1 | 13.6 | 13.6 | 8.9 |
| Kansas City, Mo. | †4 | 14.8 | 13.3 | 13.3 | 8 |
| St. Joseph, Mo. | †4 | 14.8 | 13.3 | 13.3 | 8.6 |
| Fargo, N. D. | 4 | 16.8 | 15.3 | 15.3 | 10.6 |
| Minot, N. D. | 4 | 18.0 | 16.5 | 16.5 | 11.8 |
| Huron, S. D. | *5 | 17.3 | 15.8 | 15.8 | 10.1 |
| Wichita, Kans. | 4 | 14.3 | 11.5 | 10.5 | 8.0 |

†St. Louis, Kansas City and St. Joseph prices include 1c city tax. ‡Includes 4c state tax.

*South Dakota gasoline and kerosine prices include 0.1c for sales tax.

**Note:** Effective July 1, 1935 in Iowa, and Sept 11, 1936, in Indiana, Kansas, Michigan, Minnesota, Missouri, South Dakota and Wisconsin, and effective Oct. 1, 1936 in Illinois and North Dakota, S. O. Indiana discontinued posting service station prices, posting only a t.w. and a dealer price.

*Discount to commercial consumers*: Effective Jan. 1, 1935, thru territory, except Michigan effective Feb. 1, on purchases per month, discount off t.w. prices; all gasolines, 25 to 1,000 gals., at t.w. price; 1,000 gals., or more, 1.5c off t.w. on Ethyl and Red Crown, and 0.5c on Stanolind. Minimum delivery is 25 gals.

***Subnormal Stanolind Points***

Normally Stanolind tank wagon prices are 1c under normal Red Crown t.w. prices. Among subnormal points on Stanolind t.w. are these: Detroit, 13.5c; Des Moines, 14.1c; Mason City, 13.9c; Huron, 16c; and Wichita, 11.5c, all including state and federal taxes.

## S. O. Nebraska

**STANDARD RED CROWN GASOLINE**

| | Tax | Total T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|
| Omaha, Neb. | 6 | 17.8 | 19.8 | 9.5 |
| McCook, Neb. | 6 | 18.5 | 20.5 | 10.2 |
| Norfolk, Neb. | 6 | 18.2 | 20.2 | 9.9 |
| North Platte, Neb. | 6 | 18.6 | 20.6 | 10.3 |
| Scottsbluff, Neb. | 6 | 19.3 | 21.3 | 11 |

**RELIANCE GASOLINE**
**(*Third Grade*)**

| | Tax | Total T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|
| Omaha, Neb. | 6 | 16 | 16 | .... |
| McCook, Neb. | 6 | 17.5 | 18.9 | .... |
| Norfolk, Neb | 6 | 17.2 | 19.2 | .... |
| North Platte, Neb. | 6 | 17.6 | 19.6 | .... |
| Scottsbluff, Neb. | 6 | 18.3 | 20.3 | .... |

*Discount to dealers*: where service station gasoline prices are normal, resellers' allowance off service station prices are (*Maximum* over-all, including rent) as follows: Reliance 2½c; Standard Red Crown, and Solite with Ethyl, 3½c. Where service station gasoline prices are below normal, resellers' allowances are reduced one-half of the amount below normal, down to the following (*Minimum* over-all including rent): Reliance, 2c, Standard Red Crown and Solite with Ethyl, 3c.

*Discounts to consumers*: for tank wagon deliveries covered only by Standard Commercial Consumer Contract, effective January 1, 1935.

## S. O. Louisiana

**ESSOLENE**

| | Consumer Tank Car | Dealer T.W. | Tax-es | Posted S.S. | Kero-sine T.W. |
|---|---|---|---|---|---|
| Little Rock, Ark. | 7.5 | 10 | 7.5 | ** | 11.5 |
| Alexandria, La. | 7.5 | 10 | 8 | ** | * 9.5 |
| Baton Rouge, La. | 7 | 9.5 | 8 | 21 | *11.5 |
| New Orleans, La. | 7 | 9.5 | *10 | 23 | *11 |
| Lake Charles, La. | 8 | 10.5 | 8 | ** | *10 |
| Shreveport, La. | 6.5 | 9 | 8 | ** | *10 |
| Lafayette, La. | 8 | 10.5 | 8 | ** | *12.5 |
| Bristol, Tenn. | 10 | 11.25 | 8 | ** | 14.5 |
| Chattanooga, Tenn. | 9.5 | 12 | 8 | ** | 11.5 |
| Knoxville, Tenn. | 10 | 12.5 | 8 | ** | 14 |
| Memphis, Tenn. | 8 | 10.5 | 8 | 22 | 9.5 |
| Nashville, Tenn. | 9 | 11.5 | 8 | ** | 10 |

*New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana kerosine prices include 1c state tax; in addition New Orleans has 1c parish tax.

**S. O. Louisiana transferred stations to dealers; no prices available.

*Price basis to dealers*: Undivided dealers get dealer price, less 0.5c.

*Price basis to commercial consumers*: Effective Aug. 16, 1935 in Louisiana and Jan. 27, 1936 in Arkansas, contract accounts for motor fuel are billed at 2.5c per gal. above posted consumer tank car price, less following discounts payable at end of month: 3,001 to 10,000 gals., 0.5c; 10,001 to 20,000 gals., 1c; 20,001 to 40,000 gals., 1.5c; over 40,000 gals., 2c. In Tennessee, effective Feb. 11, 1935, commercial consumers are signed at the following differentials above posted t.c. price, on yearly purchases: up to 35,999 gals., 2.5c over t.c; 36,000 to 119,999 gals., 2c; 120,000 to 239,999 gals., 1.5c; 240,000 to 479,999 gals., 1c; and over 480,000 gals., 0.5c. Non-contract customers are billed at 2.5c per gal. over posted t.c. price.

## Humble Oil & Refining Co.

**HUMBLE MOTOR FUEL**

| | *100% Dlr. T.W. | Tax | Total *100% Dlr. T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|---|
| Dallas, Tex. | 8.5 | 5 | 13.5 | 17 | 8.5 |
| Ft. Worth, Tex. | 8.5 | 5 | 13.5 | 17 | 8.5 |
| Houston, Tex. | 9 | 5 | 14 | 18 | 8.5 |
| San Antonio, Tex. | 9 | 5 | 14 | 18 | 8.5 |

**U. S. MOTOR FUEL**
**(*Third Grade*)**

| | | | | |
|---|---|---|---|---|
| Dallas, Tex. | 7 | 5 | 12 | 14 |
| Ft. Worth, Tex. | 7 | 5 | 12 | 14 |
| Houston, Tex. | 8 | 5 | 13 | 16 |
| San Antonio, Tex. | 8 | 5 | 13 | 16 |

*Price is t.w. price to contract dealers and commercial consumers. Price to open dealers is 0.5c above t.w. prices shown above.

*Price basis to dealers*: to contract dealers consumer accounts off posted retail price: when posted retail price, including all taxes on Esso motor fuel is: 19.1c per gal. and above discount is 4c; 19c to 18.1c, 3.5c, and 18c and below, 3c. Humble motor fuel, 17.1c and above, 4c; 17 to 16.1c, 3.5c; and 16c and below, 3c; U. S. motor fuel, 15.1c and above, 3c; 15 to 14.1c, 2.5c; and 14c and below, 2c. To "open" dealer accounts, discounts in each case are 0.5c less on the same price basis.

## Continental Oil

**CONOCO BRONZE GASOLINE**

| | Tax | Total T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|
| Denver, Colo. | 5 | 19 | 21 | 11 |
| Grand Junction, Col. | 5 | 21.5 | 23.5 | 15 |
| Pueblo, Colo. | 5 | 19 | 21 | 10 |
| Casper, Wyo. | 5 | 19.5 | 21.5 | 11.5 |
| Cheyenne, Wyo. | 5 | 19.5 | 21.5 | 13 |
| Billings, Mont. | 6 | 22.5 | 24.5 | 14.5 |
| Butte, Mont. | 6 | 21 | 23 | 14.5 |
| Great Falls, Mont. | 6 | 22.5 | 24.5 | 14.5 |
| Helena, Mont. | 6 | 22.5 | 24.5 | 14.5 |
| Salt Lake City, Utah | 5 | 21 | 23 | 16 |
| Boise, Ida. | 6 | 22.5 | 24.5 | 18 |
| Twin Falls, Ida. | 6 | 23 | 25 | 18 |
| Albuquerque, N. M. | †6.5 | 19 | 21 | 13 |
| Roswell, N. M. | †6.5 | 20 | 22 | 10 |
| Santa Fe, N. M. | *7 | 21.5 | 23.5 | 12 |

**DEMAND**
**(*Third Grade*)**

| | | | | |
|---|---|---|---|---|
| Denver, Colo. | 5 | 17 | 19 | .... |
| Cheyenne, Wyo. | 5 | 17.5 | 19.5 | .... |
| Helena, Mont. | 6 | 20.5 | 22.5 | .... |
| Salt Lake City, Utah | 5 | 17 | 19 | .... |
| Boise, Ida. | 6 | 20.5 | 22.5 | .... |
| Albuquerque, N. M. | †6.5 | 17 | 19 | .... |
| Roswell, N. M. | †6.5 | 15.5 | 17.5 | .... |
| Santa Fe, N. M. | *7 | 17 | 19 | .... |

†Includes city tax of 0.5c.

*Includes 1c city tax.

*Discounts*: Effective March 1, 1934, on gasolines thru territory, off normal s.s. price, except Montana, to "undivided" dealers: Ethyl and Conoco Bronze, 4c; Demand, 3c. To "divided" dealers thru territory: Ethyl and Conoco Bronze, 3.5c; Demand, 2.5c, except Utah and Idaho where full 100% or undivided dealer discount is applied to divided dealers also; thru Montana, effective March 24, 1936 on gasoline, off t.w. price to "undivided" dealers: Ethyl and Conoco Bronze, 2c; Demand, 1c; to "divided" dealers: Ethyl and Conoco Bronze, 1.5c; Demand 0.5c.

**ARKANSAS and OKLAHOMA**

| | Dealer Tax | T.W. Prices Conoco Bronze | Demand | Kero-sine T.W. |
|---|---|---|---|---|
| Muskogee | 5 | 14 | 13 | 7 |
| Oklahoma City | 5 | 14 | 13 | 8 |
| Tulsa | 5 | 14 | 12 | 8 |
| Ft. Smith, Ark. | 5 | 14.5 | 13.75 | 8 |
| Little Rock, Ark. | 7.5 | 17 | 16.25 | 9.5 |
| Texarkana, Ark. | 5 | 14.5 | 12 | 8.5 |

## S. O. California

**STANDARD GASOLINE**

| | T.W. | Tax | Total T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|---|
| San Francisco, Cal. | 13 | 4 | 17 | 18 | 11.5 |
| Los Angeles, Cal. | 12.5 | 4 | 16.5 | 17.5 | 9 |
| Fresno, Cal. | 13.5 | 4 | 17.5 | 18.5 | 11 |
| Phoenix, Ariz. | 14.5 | 6 | 20.5 | 21.5 | †16 |
| Reno, Nev. | 14.5 | 5 | 19.5 | 20.5 | 13 |
| Portland, Ore. | 13.5 | 6 | 19.5 | 20.5 | 13.5 |
| Seattle, Wash. | 13.5 | 6 | 19.5 | 20.5 | 13.5 |
| Spokane, Wash. | 16.5 | 6 | 22.5 | 23.5 | 16.5 |
| Tacoma, Wash. | 13.5 | 6 | 19.5 | 20.5 | 13.5 |

**FLIGHT GASOLINE**
**(*Third Grade*)**

| | | | | | |
|---|---|---|---|---|---|
| San Francisco, Cal. | 11.5 | 4 | 15.5 | 16.5 | .... |
| Los Angeles, Cal. | 11 | 4 | 15 | 16 | .... |
| Fresno, Cal. | 12 | 4 | 16 | 17 | .... |
| Reno, Nev. | 13 | 5 | 18 | 19 | .... |
| Phoenix, Ariz. | 13 | 6 | 19 | 20 | .... |
| Portland, Ore. | 12 | 6 | 18 | 19 | .... |
| Seattle, Wash. | 12 | 6 | 18 | 19 | .... |
| Spokane, Wash. | 15 | 6 | 21 | 22 | .... |
| Tacoma, Wash. | 12 | 6 | 18 | 19 | .... |

†Includes 5c state tax.

*Discount to dealers*: on gasoline, off t.w. price on Standard Ethyl and Standard Gasoline, to 100% dealers, 3c; to split dealers, 2c; on Flight gasoline, both 100% and split dealers, 2c.

On Stanavo Aviation Gasoline, to all classes of dealers, 3c off t.w.

*To commercial consumers*: off tank wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery on Stanavo Aviation, Standard Ethyl and Standard Gasolines, 3c. Flight Gasoline, 2c per gallon. S.s. schedule applies on single deliveries less than 40 gallons.

On kerosine in tank car, transport truck and trailer delivery, 3c off t.w. price; plant deliveries to jobbers, 2.5c below t.w.

## Canada

**PRICES OF IMPERIAL OIL LTD.**

Per Imperial Gallon, which is 1.2 U. S. Gallons

**IMPERIAL THREE STAR GASOLINE**

| | T.W. | Tax | Total T.W. | Total S.S. | Kero-sine T.W. |
|---|---|---|---|---|---|
| Hamilton, Ont. | 15 | 6 | 21 | 23.5 | 17 |
| Toronto, Ont. | 15 | 6 | 21 | 23.5 | 17 |
| Brandon, Man. | 22.8 | 7 | 29.8 | 32.8 | 22.3 |
| Winnipeg, Man. | 21.2 | 7 | 28.2 | 31.2 | 20.7 |
| Regina, Sask. | 22.5 | 7 | 29.5 | 32.5 | 22 |
| Saskatoon, Sask. | 25.3 | 7 | 32.3 | 35.3 | 24.8 |
| Edmonton, Alta. | 23.5 | 7 | 30.5 | 33.5 | 24.2 |
| Calgary, Alta. | 21 | 7 | 28 | 31 | 21.5 |
| Vancouver, B. C. | 15 | 7 | 22 | 26 | 23 |
| Montreal, Que. | 12.5 | 6 | 18.5 | * | 17.5 |
| St. John, N. B. | 16 | 8 | 24 | 28 | 18.5 |
| Halifax, N. S. | 16 | 8 | 24 | 28 | 18.5 |

*Imperial Oil Ltd. transferred stations to dealers; no prices available.

*Discounts to dealers: Off s.s. prices*:

Maritime Provinces, 4c to all classes of dealers. Quebec, except Montreal City, Prairie Provinces and British Columbia, except Vancouver, 3c to divided dealers, 4c to undivided dealers. Ontario and Montreal City, 2½c to divided dealers, 3½c to undivided dealers, Vancouver, 5c to undivided dealers, 4c to divided.

## Aviation Gasoline

Following are tank car and/or tank wagon prices of aviation gasoline in principal marketing territories (Stanavo aviation in all territories except Continental Oil.) Tax column includes 1c federal tax, and state tax; also municipal taxes as indicated in footnotes.

**In Effect Nov. 30, 1936**

**S. O. NEW JERSEY**

| | Tank Car | T.W. |
|---|---|---|
| Bayonne, N. J. | 10 | 12 |
| Baltimore, Md. | 10 | 12 |
| Washington, D. C. | | 12.6 |
| Richmond, Va. | | 14.2 |
| Greensboro, N. C. | | 14.7 |
| Raleigh, N. C. | | 16.6 |
| Charleston, W. Va. | | 14.2 |

**COLONIAL BEACON OIL CO.**

| | T.W. |
|---|---|
| Brooklyn, N. Y. | 12.8 |
| Buffalo, N. Y. | 14.1 |
| Boston, Mass. | 14.5 |

**S. O. PENNSYLVANIA**

| | |
|---|---|
| Philadelphia, Pa. | 13.1 |
| Pittsburgh, Pa. | 13.9 |

# TANK WAGON, SERVICE STATION MARKETS

*Tax column includes 1c federal tax, state gasoline tax, also city and county taxes as indicated in footnotes, and inspection fees, as shown in general footnote. These prices in effect Nov. 30, 1936, as posted by principal marketing companies at their headquarters offices, but subject to later corrections*

### S. O. LOUISIANA

| | T.W. |
|---|---|
| New Orleans, La. | 12.3 |
| Shreveport, La. | 12.6 |

Prices in above four territories do not include state or federal taxes. They are for 74 octane grade aviation gasoline. An 80 octane product generally brings 0.5c premium and an 87 octane product, 1.5c premium over the 74 octane grade.

*Note*: S.s. prices in above four territories are generally 6c over t.w. prices. Above t.w. prices are met, with no discounts allowed for quantity purchases. T.w. prices are generally tank car price, plus freight, plus 2.5c per gal.

### S. O. OHIO

*Thru Ohio*

| | Consumer T.W. | Tax | Total Consumer T.W. |
|---|---|---|---|
| Stanavo Ethyl Aviation: | | | |
| 73 octane | 15.5 | 5 | 20.5 |
| 80 octane | 16.5 | 5 | 21.5 |
| 87 octane | 17.5 | 5 | 22.5 |

*Discounts*: For delivery on contract to hangar operators and resellers: 2c below commercial consumer posted t.w. price.

### S. O. INDIANA

| | | | |
|---|---|---|---|
| Chicago, Ill. | 14.4 | 4 | 18.4 |
| Indianapolis, Ind. | 15.3 | 5 | 20.3 |
| Detroit, Mich. | 15.9 | 4 | 19.9 |
| Milwaukee, Wisc. | 14.7 | 5 | 19.7 |
| Minneapolis, Minn. | 14.8 | 4 | 18.8 |
| St. Louis, Mo. | 13.1 | *4 | 17.1 |
| Kansas City, Mo. | 13.8 | *4 | 17.8 |
| Fargo, N. D. | 15.8 | 4 | 19.8 |
| Huron, S. D. | 15.3 | 5 | 20.3 |
| Wichita, Kans. | 13.3 | 4 | 17.3 |

*Includes 1c city tax.
**Includes 0.1c to cover sales tax.

### HUMBLE OIL & REFINING CO.

| | Tank Car |
|---|---|
| Baytown, Tex. (exclusive of taxes) | 8.5 |

### CONTINENTAL OIL CO.

| | T.W. | Tax | Total T.W. |
|---|---|---|---|
| Denver, Colo. | 17 | 5 | 22 |
| Cheyenne, Wyo. | 17.5 | 5 | 22.5 |
| Helena, Mont. | 19.5 | 6 | 25.5 |
| Salt Lake City, Utah | 19 | 5 | 24 |
| Albuquerque, N. M. | 15.5 | *6.5 | 22 |

*Includes city tax of 0.5c.

### S. O. CALIFORNIA

| | | | |
|---|---|---|---|
| Phoenix, Ariz. | 16.5 | 6 | 22.5 |
| Los Angeles, Cal. | 14.5 | 4 | 18.5 |
| San Francisco, Cal. | 15 | 4 | 19 |
| Reno, Nev. | 16.5 | 5 | 21.5 |
| Portland, Ore. | 15.5 | 6 | 21.5 |
| Seattle, Wash. | 15.5 | 6 | 21.5 |
| Spokane, Wash. | 18.5 | 6 | 24.5 |

*Note*: For discounts, etc., see note under Standard and Flight gasoline above.

## Naphtha (In Tank Wagon)

**In Effect Nov. 30, 1936**

**(Net price in Tank Wagon; in Cents per Gallon)**

### *S. O. NEW JERSEY

| | Mineral Spirits | V.M. & P. Naphtha |
|---|---|---|
| Baltimore, Md. | 14 | 15.5 |
| Newark, N. J. | 12.5 | 14.5 |
| Washington, D. C. | 14 | **17.5 |

*2c off t.w. prices to large buyers in some instances.
**Steel bbls. only.

### SOCONY-VACUUM OIL CO.

| | | |
|---|---|---|
| Buffalo, N. Y. | *15 | 15 |
| New York City | 10.5 | 11.5 |
| Rochester, N. Y. | †16 | |
| Syracuse, N. Y. | **16 | |
| Boston, Mass. | 13 | 13.5 |
| Bridgeport, Conn. | 13 | 13.5 |
| Providence, R. I. | 13 | 14 |

*2c off for 50 gals. or more purchase; 3.5c off for 4,000 gals. or more.
†4c off for purchase of 150 gals. or more.
**Less 2c for 150 gals. or more.

### ATLANTIC REFINING CO.

| | | |
|---|---|---|
| Philadelphia, Pa. | 11.5 | 12.5 |
| Lancaster, Pa. | 13 | 14 |
| Pittsburgh, Pa. | 12.5 | 14.5 |

*Note*: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V. M. & P. Naphtha apply also to Light Cleaners Naphtha.

### S. O. OHIO

| | S.R. Solvent | V.M. & P. Naphtha |
|---|---|---|
| Thru Ohio | 13.25 | 13.75 |

*Note*: V.M. & P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers, off t.w. price: 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals. 1.5c.

### S. O. INDIANA

| | Oleum Spirits | V.M. & P. Naphtha | Stanisol |
|---|---|---|---|
| Chicago, Ill. | 16.2 | 16.5 | 15 |
| Detroit, Mich. | 17.9 | 19 | 18 |
| Kansas City, Mo. | 13.3 | 14.3 | 13.3 |
| St. Louis, Mo. | 13.6 | 14.6 | 12.5 |
| Milwaukee, Wis. | 18.2 | 19.2 | 18.2 |
| Minneapolis, Minn. | 17.3 | 18.3 | 16.4 |

*Note*: Prices for V. M. & P. apply also to Light Cleaners Naphtha. All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

## *Naphtha (In Tank Cars)*

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

| | V.M. & P. Naphtha | Solvent |
|---|---|---|
| Baltimore | 10 | 9.5 |
| New York Harbor | 10 | 9 |
| Philadelphia district | 10 | 9.5 |
| Providence | 10 | 9.5 |
| Ohio points, delivered | 9.25 | *8.75 |

*This is on S.R. solvent.
*Note*: In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M. & P.; on Varnolene and Sohio Solvent, prices are 0.5c less than on V.M. & P.

## Latest Changes

**From Nov. 24 to Nov. 30 inclusive. Dates and amounts of changes shown. See table for full current prices. Changes are on gasoline unless kerosine is indicated.**

*S. O. Ohio—X-70 and Renown:*

Marion, Morrow and Delaware counties, t. w. cut 1c, Nov. 26.

*S. O. Indiana—Red Crown, Stanolind, Tractor Fuel and Kerosine:*

Subnormal prices to dealers and t.w. prices to be advanced 0.1c to 2.5c at approximately 120 southwestern Kansas points, Dec. 4.

## Corrections

**Notation of amount of change and dates not previously shown in table. Table in this issue is corrected to show these changes. Changes are on gasoline unless kerosine is indicated.**

*S. O. New Jersey—Essolene:*

Service stations at Norfolk, Va., transferred to dealers, Nov. 13.

*S. O. Louisiana—Essolene Discounts:*

Thru oversight, commercial consumer discounts were not corrected in the footnote under S. O. La., tables in the issues of Nov. 11, 18 and 25, although correction note was published on page 73 of the Nov. 18 issue. This footnote is corrected in this issue to show current discounts, and dates they went into effect.

*Kerosine:*

Little Rock, cut 2c, Nov. 16.

## Fuel Oil Market

(*Continued from page 27*)

TULSA, Nov. 28.—Reflecting the tightness of offerings and increased demand, prices for light fuel oils were advanced 0.125 cent in many Mid-Continent districts the past week.

Sales of light fuels in the open market were held to a minimum at many plants so as not to impair available supplies for contract commitments. The recent moderate weather was welcomed by some Mid-Continent suppliers since it gave them an opportunity to replenish stocks.

Colder weather, however has stimulated inquiry for Nos. 1, 2 and 3 oils. Need for additional supplies for immediate delivery caused some buyers to bid higher prices.

Oklahoma refiners, spurred on by more inquiries from local jobbers, were investigating the extent to which oil burning heaters were invading a territory which up to now had been 100 per cent for natural gas. They were surprised to find that numerous oil burners had been installed in Oklahoma and other Mid-Continent states during the fall. Refiners reported that local jobbers handling heating oils were more numerous.

Heavy fuels were active, according to most sellers. Stocks have been reduced considerably.

### September Gasoline Sales In Ohio Up

COLUMBUS, Nov. 17.—Consumption of gasoline in Ohio in September was 105,202,617 gallons, an increase of 12,187,632 gallons, or 13.1 per cent, over September, 1935. This according to a compilation made by the Ohio Petroleum Marketers Association from reports received by the Gasoline Tax Division of the State.

Total consumption for the first nine months was 841,952,389 gallons, an increase of 84,315,235 gallons or 11.1 per cent over the first nine months of 1935.

### New Czech Refinery

WASHINGTON, Nov. 27. — Construction of a new refinery at Dubova, Czechoslovakia, is nearing completion, according to the Commerce Department. Reports are that equipment to be installed will be of domestic manufacture only. Total cost will be approximately $1,750,000.

# SEABOARD MARKETS, EXPORT AND COASTWISE

*Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons*

## Eastern Domestic

(Prices in cents per gallon tank car lots, unless otherwise noted, f.o.b. refinery or seaboard terminal, representing majority of quotations or sales. Inter-refinery and export prices not included. Florida and S. Carolina inspection tax not included)

### *MOTOR GASOLINE

| Prices Nov. 30 | 60-64 Octane | 65 Octane and Above |
|---|---|---|
| New York harbor | 6.25 | 6.50 |
| New York harbor, barges | 6.00 | 6.25 |
| Philadelphia district | 6.50 | 6.50 – 6.75 |
| Baltimore district | 6.50 | 6.75 |
| Norfolk district | 6.50 – 6.75 | 7.00 |
| Wilmington, N. C. district | 6.75 | 7.00 |
| Charleston, S. C. district | 6.75 | 7.00 |
| Savannah district | 6.75 | 7.00 |
| Jacksonville district | 6.75 | 7.00 |
| Portland district | 6.75 – 7.00 | 7.00 – 7.25 |
| Boston district | 6.50 | 6.75 |
| Boston district, barges | 6.25 | 6.50 |
| Providence district | 6.50 | 6.75 |
| Providence district, barges | 6.25 | 6.50 |

*Due to lack of companies offering U. S. Motor gasoline, 59 octane and below in the open market, prices for this grade are discontinued. Quotations nominally are 0.25c below those for 60-64 octane grade.

### WATER WHITE KEROSINE

Prices Nov. 30

| | | | |
|---|---|---|---|
| New York harbor | 4.625 | Savannah district | 5.25 |
| N. Y. harbor, barges | 4.50 | Jacksonville district | 5.25 |
| Philadelphia district | 4.50 – 4.75 | Portland district | 5.125 |
| Baltimore district | 4.50 – 4.625 | Boston district | 4.625 |
| Norfolk district | 4.875 | Boston dist., barges | 4.50 |
| Wilmington, N. C. | 4.875 | Providence district | 4.625 |
| Charleston, S. C. dist. | 4.875 | Providence, barges | 4.50 |

### *FUEL OILS

| Prices Nov. 30 | New York harbor | New York harbor, barges | Philadelphia district |
|---|---|---|---|
| No. 1 | 4.625 | 4.50 | 4.50 – 4.75 |
| No. 2 | 4.25 | 4.00 – 4.125 | 4.25 |
| No. 3 | 4.25 | 4.00 – 4.125 | 4.25 |
| No. 4 | 3.75 – 4.00 | 3.625– 3.875 | 3.75 – 4.00 |
| No. 5 (per barrel) | $1.35 | ..... | $1.35 |
| No. 6 (per barrel) | $1.15 | ..... | $1.15 |

| | Baltimore district | Boston district |
|---|---|---|
| No. 1 | 4.50 – 4.625 | 4.625 |
| No. 2 | 4.25 | 4.25 |
| No. 3 | 4.25 | 4.25 |
| No. 4 | 3.75 – 4.00 | 4.25 |
| No. 5 (per barrel) | $1.35 | $1.45 |
| No. 6 (per barrel) | $1.15 | $1.15 |

| | Boston dist., barges | Providence district | Providence dist., barges |
|---|---|---|---|
| No. 1 | 4.50 | 4.625 | 4.50 |
| No. 2 | 4.125 | 4.25 | 4.125 |
| No. 3 | 4.125 | 4.25 | 4.125 |
| No. 4 | 4.125 | 3.75 – 4.00 | 3.625 |

*Fuel oils meet specifications of U. S. Commercial Standards CS12-35

| | Bunker Oil Grade C Per Barrel | Diesel Oil Ships' Bunkers Per Barrel | Gas Oil 28-34 Gravity Per gallon | Diesel Oil Shore Plants Per gallon |
|---|---|---|---|---|
| New York harbor | *$1.15 | *$1.65 | 4.25 | 4.25 |
| Philadelphia dist. | *$1.15 | *$1.65 | 4.25 | ..... |
| Baltimore district | *$1.15 | *$1.65 | 4.25 | ..... |
| Norfolk district | *$1.15 | *$1.785 | 4.25 | ..... |
| Charleston district | $1.10 | $1.65 | ..... | ..... |
| Savannah district | $1.10 | $1.89 | ..... | 4.75 |
| Jacksonville dist. | $1.10 | $1.995 | ..... | 4.75 |
| Tampa district | $1.10 | $1.995 | ..... | ..... |
| Portland district | $1.25 | $1.75 | ..... | ..... |
| Boston district | $1.15 | *$1.65 | ..... | ..... |
| Providence district | $1.15 | $1.65 | ..... | ..... |

*Lighterage for bunker oil, 5c per bbl. additional; for Diesel oil, 6.5c per bbl. additional.

## Pacific Export

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

| Prices— | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 53-55 U. S. Motor | 5.00 – 5.25 | 5.00 – 5.25 | 5.00 – 5.25 |
| 400 e.p. blend 65 Octane and above | 5.25 – 5.75 | 5.25 – 5.75 | 5.25 – 5.75 |
| 38-40 w.w. kerosine, 150 fire point | 4.25 – 5.00 | 4.00 – 5.00 | 4.00 – 5.00 |
| 41-43 w.w. kerosine | 4.50 – 5.00 | 4.50 – 5.00 | 4.50 – 5.00 |
| 44 water white kerosine | 5.00 | 5.00 | 5.00 |
| Prime white kerosine | 3.50 – 4.25 | 3.50 – 4.25 | 3.50 – 4.25 |
| *In Cargo lots*, per barrel | | | |
| Diesel fuel oil, above 23.9° | $1.00 –$1.15 | $1.00 –$1.15 | $1.00 –$1.15 |
| Diesel fuel oil, under 23.9° | $0.95 –$1.10 | $0.95 –$1.10 | $0.95 –$1.10 |
| 30-34 gas oil | $1.05 –$1.15 | $1.05 –$1.15 | $1.05 –$1.15 |
| Grade C fuel oil | $0.75 –$0.90 | $0.75 –$0.90 | $0.75 –$0.90 |

| Pacific Export (cont'd) | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| *In Ships' Bunkers, or deep tank lots*, per barrel: | | | |
| Diesel fuel oil, above 23.9 gravity | $1.00 –$1.16 | $1.00 –$1.16 | $1.00 –$1.16 |
| Diesel, under 23.9 gravity | $0.95 –$1.06 | $0.95 –$1.06 | $0.95 –$1.06 |
| Grade C fuel oil | $0.90 –$0.95 | $0.90 –$0.95 | $0.90 –$0.95 |
| *Cased Goods:* | | | |
| Gasoline, U. S. Motor | $1.30 –$1.50 | $1.30 –$1.50 | $1.30 –$1.50 |
| Gasoline, 400 e.p. blend | $1.45 –$1.65 | $1.45 –$1.65 | $1.45 –$1.65 |
| 38-40 w.w. kerosine, 150 fire point | $1.10 –$1.25 | $1.10 –$1.25 | $1.10 –$1.25 |
| Kerosine, prime white | $1.05 –$1.15 | $1.05 –$1.15 | $1.05 –$1.15 |

## New York Export

(Prices in cents per gallon in barrels, F.a.s. New York)

### CYLINDER OILS (Pennsylvania Products)

| | | | |
|---|---|---|---|
| *Bright stock*: | | | |
| Light, 25 pour point | 27.50 | 27.50 | 27.50 |
| Dark, 25 pour point | 27.00 | 27.00 | 27.00 |
| *Neutral oil*: | | | |
| 200 3 color, 25 pour point | 29.50 | 29.50 | 29.00 |
| 150 3 color, 25 pour point | 26.00 | 26.00 | 25.50 |
| 600 Warren E filtered | 22.50 –23.00 | 22.50 –23.00 | 22.50 –23.00 |
| 600 stm. rfd., unfiltered | 19.50 –20.00 | 19.50 –20.00 | 19.50 –20.00 |
| 650 stm. rfd . unfiltered | 21.00 –21.50 | 21.00 –21.50 | 21.00 –21.50 |
| 600 flash, steam refined | 22.00 –22.50 | 22.00 –22.50 | 22.00 –22.50 |
| 630 flash, steam refined | 24.00 | 24.00 | 24.00 |

## Wax Domestic *and* Export

(Prices in cents per pound. Tests made by A. S. T. M. methods. Melting points shown below, however, are A. M. P., 3° higher than A. S. T. M. (E. M. P.) melting points. Export prices are f.a.s. carload lots. Domestic prices are f.o.b refineries in New York and New Orleans districts, in bags, carload lots, with 0.2c discount allowed for shipment in bulk. Scale solid and fully refined slabs in bags.)

| | New York | | New Orleans | |
|---|---|---|---|---|
| Prices—Nov. 30 | Domestic | Export | Domestic | Export |
| 124-6 Y.C. scale | 2.40 – 2.45 | 2.40 – 2.45 | 2.40 – 2.45 | 2.40 – 2.45 |
| 122-4 W.C. scale | 2.40 – 2.45 | 2.40 – 2.45 | 2.40 – 2.45 | 2.40 – 2.45 |
| 124-6 W.C. scale | 2.40 – 2.50 | 2.40 – 2.50 | 2.40 – 2.50 | 2.40 – 2.50 |
| 123-5 Fully refined | 4.45 | 4.125 | 4.45 | 4.125 |
| 125-7 Fully refined | 4.55 | 4.25 | 4.55 | 4.25 |
| 128-30 Fully refined | 4.80 | 4.50 | 4.80 | 4.50 |
| 130-2 Fully refined | 5.05 | 4.75 | 5.05 | 4.75 |
| 133-5 Fully refined | *5.35 | 5.25 | *5.35 | 5.25 |
| 135-7 Fully refined | *5.60 | 5.50 | ..... | ..... |

*Shipment either in bags or in bulk.

## Gulf Coast

(Prices are f.o.b. ship at Gulf oil terminals representing opinions of majority of traders, except prices specified to the contrary. Prices cover bulk shipments of 20,000 barrels or more, unless otherwise noted.)

### MOTOR GASOLINE

| For Domestic Shipment Prices— | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 59 octane and below | 5.50 | 5.50 | 5.50 |
| 60-64 octane number | 5.75 – 5.875 | 5.75 – 5.875 | 5.75 – 5.875 |
| 65 octane and above | 6.00 | 6.00 | 6.00 |

### FUEL OILS

| | | | |
|---|---|---|---|
| No. 1 Fuel oil | 4.00 | 4.00 | 3.875– 4.00 |
| No. 2 Fuel oil | 3.50 | 3.50 | 3.50 |
| No. 4 Fuel oil | 3.25 | 3.25 | 3.25 |

### KEROSINE

| | | | |
|---|---|---|---|
| 41-43 w.w. | 4.00 | 4.00 | 4.00 |

### GASOLINE

| For Export Shipment | | | |
|---|---|---|---|
| U. S. Motor gasoline | 5.125 | 5.125 | 5.125 |
| 60-62, 400 e.p. gasoline | 5.25 | 5.25 | 5.25 |
| 61-63, 390 e.p. gasoline | 5.375 | 5.375 | 5.375 |
| 64-66, 375 e.p. gasoline | 5.625 | 5.625 | 5.625 |

### KEROSINE

| | | | |
|---|---|---|---|
| 44 water white | 4.25 | 4.25 | 4.125 |
| 41-43 water white | 4.00 | 4.00 | 3.75 – 3.875 |
| 41-43 prime white | 3.875 | 3.875 | 3.625– 3.75 |

*(Continued on next page)*

# SEABOARD MARKETS, EXPORT AND COASTWISE

*Prices do not include Federal tax. Where $ mark is shown, prices are per barrel of 42 U. S. gallons*

(Continued from preceding page)

### GAS AND BUNKER OILS

| Prices— | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| For Domestic and/or Export Shipment | | | |
| *26-30 translucent gas oil | 3.375 | 3.375 | 3.25 |
| *30 plus translucent gas oil | 3.375– 3.50 | 3.375– 3.50 | 3.25 |
| *30 plus transp. gas oil | 3.50 – 3.75 | 3.50 – 3.75 | 3.25 – 3.375 |
| Diesel Oil Ships' bunkers | $1.50 | $1.50 | $1.50 |
| Grade C bunker oil, for ship's bunkers, per bbl. | †$0.95 | †$0.95 | †$0.95 |
| Grade C bunker oil, per bbl. in cargoes | $0.95 | $0.95 | $0.95 |

*Less than ½ of 1% sulphur. †Lighterage 5c per bbl. additional.

### MEXICAN CRUDE AND BUNKER OILS

(F.o.b. Steamer, Tampico)

| | | | |
|---|---|---|---|
| Heavy Panuco crude taxes to be paid, per bbl. | $0.95 | $0.95 | $0.95 |
| Grade C bunker oil, ship's bunkers, taxes paid, per bbl. | $0.97 | $0.97 | $0.97 |

### MID-CONTINENT LUBRICATING OILS

(Prices in cents per gallon in bbls. f.a.s. Gulf terminals. In drums and new barrels, 0.5c to 1c higher per gal. in some instances.)

| | | | |
|---|---|---|---|
| 190-200 vis. D 210 bright stock | 26.00 | 26.00 | 26.00 |
| 150-160 vis. D 210 bright stock | 23.00 | 23.00 | 23.00 |
| 0-10 pour point | 22.50 | 22.50 | 22.50 |
| 10-25 pour point | 22.00 | 22.00 | 22.00 |
| 25-40 pour point | 22.00 | 22.00 | 22.00 |
| 150-160 vis. E 210 brt. stock | | | |
| 120 vis. D 210 bright stock | 21.00 | 21.00 | 21.00 |
| 180 vis. No. 3 color neutral Oil: | | | |
| 0-10 pour point | 16.50 | 16.50 | 16.50 |
| 15-30 pour point | 16.00 | 16.00 | 16.00 |
| 200 vis. No. 3 color neutral Oil: | | | |
| 0-10 pour point | 17.00 | 17.00 | 17.00 |
| 15-30 pour point | 16.50 | 16.50 | 16.50 |

Mid-Continent Lubricating Oils (Cont'd.)

| Prices— | Nov. 30 | Nov. 23 | Nov. 16 |
|---|---|---|---|
| 600 s.r. olive green | 12.25 | 12.25 | 12.25 |
| 600 s.r. dark green | 11.00 | 11.00 | 11.00 |
| 631 s.r. | 18.00 –18.50 | 18.00 –18.50 | 18.00 –18.50 |

### SOUTH TEXAS LUBRICATING OILS

(Viscosity at 100° F., pour point 0. Tanker, f.o.b. Gulf oil terminals, for export shipment)

*Unfilterable Pale Oils*:

| Vis. Color | | | |
|---|---|---|---|
| 100 No. 3 | 5.00 – 5.25 | 5.00 – 5.25 | 5.00 – 5.25 |
| 200 No. 3 | 6.00 – 6.50 | 6.00 – 6.50 | 6.00 – 6.50 |
| 300 No. 3 | 6.50 – 7.00 | 6.50 – 7.00 | 6.50 – 7.00 |
| 500 No. 3½ | 7.50 – 7.875 | 7.50 – 7.875 | 7.50 – 7.875 |
| 750 No. 4 | 8.75 – 9.00 | 8.75 – 9.00 | 8.75 – 9.00 |
| 1200 No. 4 | 9.00 – 9.25 | 9.00 – 9.25 | 9.00 – 9.25 |
| 2000 No. 4 | 9.75 –10.00 | 9.75 –10.00 | 9.75 –10.00 |

*Red Oils*:

| Vis. Color | | | |
|---|---|---|---|
| 100 No. 5-6 | 5.00 – 5.25 | 5.00 – 5.25 | 5.00 – 5.25 |
| 200 No. 5-6 | 5.875– 6.50 | 5.875– 6.50 | 5.875– 6.50 |
| 300 No. 5-6 | 6.25 – 6.75 | 6.25 – 6.75 | 6.25 – 6.75 |
| 500 No. 5-6 | 7.25 – 7.50 | 7.25 – 7.50 | 7.25 – 7.50 |
| 750 No. 5-6 | 8.75 – 9.00 | 8.75 – 9.00 | 8.75 – 9.00 |
| 1200 No. 5-6 | 8.75 – 9.25 | 9.00 – 9.25 | 9.00 – 9.25 |
| 2000 No. 5-6 | 9.75 –10.00 | 9.75 –10.00 | 9.75 –10.00 |

**Note:** Red oil prices shown above cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

## Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds. British sterling; to U. S. ports cents per barrel)

| | Crude &/or Fuel | | Refined Oil &/or Spirits | |
|---|---|---|---|---|
| Rates—Nov. 30 | Last Paid | Owners Ask | Last Paid | Owners Ask |
| Calif.-U.K./Cont.* | 20/ | 20/-21/ | 17/ | 18/-19/ |
| Gulf-U.K./Cont.* | 14/ | 14/-14/4 | 13/ | 13/-13/5 |
| Calif. N. Atlantic (not E. of N. Y.) | .... | †70c | .... | †70c |
| Gulf-N. Atlantic** (not E. of N. Y.): | | | | |
| Heavy Crude & Fuel, (10 to 19.9 gravity) | †38c | †39-40c | .... | .... |
| Light Crude, (30 gravity or lighter) | 34c | †35c | .... | .... |
| Gasoline | .... | .... | 35c | †35-38c |
| Kerosine | .... | .... | †36c | †36-39c |
| Light Fuel | .... | .... | †37c | †37-40c |

**Note:** Dirty boat quotations are enlarged to cover, "Fuel and Light Crude" quotations.

*Continental ports in range between Bordeaux and Hamburg, both inclusive

**Venezuela loading same rate: Tampico 2c to 3c per bbl. additional.

†Nominal.

### Accounting Discussed

LOS ANGELES, Nov. 27. — A joint meeting of the California Natural Gasoline Association and the Petroleum Accountants Society will be held in Los Angeles Dec. 3.

The main address of the evening will be a paper on "Natural Gas and Gasoline Accounting," prepared by Gordon Campbell, oil accountant, General Petroleum Corp. This is the first time a joint meeting has been held by these groups.

### Road Oil Specifications

WASHINGTON, Nov. 28.—A complete summary tabulation of state specifications for road materials has been completed by the U. S. Bureau of Mines, in collaboration with the Department of Agriculture and the National Research Council. This brings up to date the tabulation made by the Bureau of Public Roads in 1934.

This tabulation shows a smaller number of test methods is in use now than two years ago. The detailed specifications for the different grades of asphaltic materials show much less divergence than in the first assembly of specifications, which indicates greater progress in reaching uniformity of grades among the states.

In past years, one of the most troublesome and, incidentally expensive conditions met in road work was the multitudinous variations in road oil and asphalt specifications in the different states. The majority of these variations were slight but to meet them refiners were forced to increase their costs considerably.

The report indicates also that freak specifications are being gradually eliminated and that experience along with the efforts of all concerned to standardize and simplify specifications is slowly bearing fruit, to the advantage of both buyer and seller of road oil products.

NEW YORK, Nov. 28.—Gasoline tax receipts in Mississippi have increased $202,699 monthly since collection was transferred from the state auditor's department to the newly created motor vehicle commission, according to the American Petroleum Industries Committee.

Gasoline tax collections increased $976,293 between May 1, when the law became effective and Oct. 31, and gasoline tax refunds decreased $442,599 as compared with the corresponding period in 1935, Motor Vehicle Commissioner Howard Dyer reported.

### Jones to Leave Socony

NEW YORK, Nov. 30. — C. L. Jones, vice-president and director of the Socony-Vacuum Oil Corp., will leave the company Jan. 1 to become executive vice-president of the National Distillers Products Corp.

Mr. Jones has served 10 years with various companies in the Standard Oil group, starting in Pittsburgh with the parent Standard company. He recently has been in charge of mid-western marketing for Socony-Vacuum.

### Heads Hospital Drive

NEW YORK, Nov. 30.—F. S. Fales, vice-president of Socony-Vacuum Oil Co., Inc., has been appointed chairman of the petroleum division of the United Hospital Campaign Committee to raise funds to help the voluntary hospitals meet the cost burden of free care given each year to the community.

CLEVELAND — Inland Steel Co. has let contract to Arthur G. McKee Co. to build a new blast furnace and auxiliary equipment. This addition, the fifth furnace at Inland's Indiana Harbor, Ind. plant, will have an iron capacity of 1000 tons per day and will cost approximately $2,500,000.

# CRUDE OIL MARKETS

*Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given*

### EASTERN FIELDS

***Posted by Joseph Seep Purchasing Agency***

(Effective Jan. 13, 1936, except Corning Sept. 18, 1936)

Penna. Grade Oil in Southwest Penna. Pipe Lines ..... $2.17
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) ..... $2.12
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) ..... $1.97
Corning Oil in Buckeye Pipe Lines (Ohio) .. $1.32

***Posted by Other Companies***

Tide Water Pipe Co., Ltd.
Bradford-Allegheny district (Penna. and N. Y.) (Effective Jan. 13, 1936) ..... $2.45
*The Pennzoil Co.: (Effective Jan. 13, 1936)
Penna. Grade Oil in National Transit Lines* $2.42
Ashland Oil & Transportation Co.:
Somerset Oil in Ashland Lines (Ky.): (Effective Jan. 9, 1936)
Big Sandy River ..... $1.30
Kentucky River ..... $1.38

*The Pennzoil Co. posts $2.42 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields; prices in other lower districts range down to $2.37 per bbl. at well.

### MICHIGAN

***Posted by Pure Oil Co.***

Midland, Midland County (Sept. 16, 1936) .. $1.32

***Posted by Simrall Pipe Line Corp.***

(Effective Sept. 16, 1936)

West Branch and equal grades ..... $1.16
Beaverton, Crystal, Greendale, Porter and equal grades ..... $1.32

### CENTRAL STATES FIELDS

***Posted by Ohio Oil Co.***

(Effective Jan. 9, 1936)

Illinois, Princeton ..... $1.23

(Effective Sept. 22, 1936)

Lima ..... $1.15

(Effective Nov. 1, 1936)

Owensboro (Western Ky.) ..... $1.28

***Posted by Stoll Oil Refining Co.***

(Effective Jan. 9, 1936)

Stoll Pipe Line Oil (Ky.) ..... $1.28

### CANADIAN FIELDS

***Posted by Imperial Oil Limited***

*Western Ontario*

(Effective Sept. 9, 1933)

Petrolia ..... $2.10
Oil Springs ..... $2.17

*Alberta—Turner Valley*

(Prices f.o.b. field tankage)

(Effective Feb. 3, 1936)

| Crude: | | Naphtha: | |
|---|---|---|---|
| 40-44.9 | $1.55 | †Clear | $2.70 |
| 45-45.9 | $2.12 | †Discolored | $2.46 |
| 50 and above | $2.32 | | |

†Clear naphtha: 22 color; 10 lbs. vapor pressure, Reid method; 90% recovery; end point, 410°. Discolored naphtha: same specifications as for clear naphtha except color.

### MID-CONTINENT

***Posted by Stanolind Crude Oil Purchasing Co.***

(Effective Jan. 9, 1936)

| (In Oklahoma-Kansas) | (In North-North Central Texas) |
|---|---|
| Below 29 ..... $0.94 | $0.84 |
| 29-29.9 ..... 0.96 | 0.86 |
| 30-30.9 ..... 0.98 | 0.88 |
| 31-31.9 ..... 1.00 | 0.90 |
| 32-32.9 ..... 1.02 | 0.92 |
| 33-33.9 ..... 1.04 | 0.94 |
| 34-34.9 ..... 1.06 | 0.96 |
| 35-35.9 ..... 1.08 | 0.98 |
| 36-36.9 ..... 1.10 | 1.00 |
| 37-37.9 ..... 1.12 | 1.02 |
| 38-38.9 ..... 1.14 | 1.04 |
| 39-39.9 ..... 1.16 | 1.06 |
| 40 and above ..... 1.18 | 1.08 |

Above Stanolind prices met as follows: Jan. 9, by The Texas Co. in North and North Central Texas; Continental Oil in all three states.

Note: Stanolind prices in Okla.-Kans. are for quantities computed by 97% tank tables. In Texas, 99% tank tables are used, volume corrected to 60° F., and deduction for full b.s. & w. content.

***Posted by Carter Oil Co.***

*In Oklahoma*

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| Below 25 | $0.86 | 33-33.9 | $1.04 |
| 25-25.9 | 0.88 | 34-34.9 | 1.06 |
| 26-26.9 | 0.90 | 35-35.9 | 1.08 |
| 27-27.9 | 0.92 | 36-36.9 | 1.10 |
| 28-28.9 | 0.94 | 37-37.9 | 1.12 |
| 29-29.9 | 0.96 | 38-38.9 | 1.14 |
| 30-30.9 | 0.98 | 39-39.9 | 1.16 |
| 31-31.9 | 1.00 | 40 and above | 1.18 |
| 32-32.9 | 1.02 | | |

Jan. 9, Carter's Oklahoma gravity and price schedule met in Oklahoma-Kansas by Sinclair-Prairie, and Humble's West Central Texas schedule met in North and North Central Texas where Sinclair-Prairie buys. Same day, Shell Petroleum met Carter in full in Oklahoma-Kansas.

***Posted by Magnolia Petroleum Co.***

(Effective Jan. 9, 1936)

In Oklahoma, same schedule as Carter Oil, which see above, beginning with below 25, at $0.86 and ending with 40 & above, at $1.18.

In Texas: North and North Central, including Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden; and in Central Texas, including Mexia, Wortham, and Panola county, same gravity and price schedule as Humble in West Central Texas, which see below, beginning with below 29 at $0.84, and ending with 40 and above, at $1.08.

***Posted by Humble Oil & Refining Co.***

### TEXAS FIELDS

(*West Central Texas)

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| Below 29 | $0.84 | 35-35.9 | $0.98 |
| 29-29.9 | 0.86 | 36-36.9 | 1.00 |
| 30-30.9 | 0.88 | 37-37.9 | 1.02 |
| 31-31.9 | 0.90 | 38-38.9 | 1.04 |
| 32-32.9 | 0.92 | 39-39.9 | 1.06 |
| 33-33.9 | 0.94 | 40 and above | 1.08 |
| 34-34.9 | 0.96 | | |

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young counties.

Shell Petroleum Corp., on Jan. 9, met Humble in Fisher county, except that Shell posts five lower grades, beginning with below 25 gravity at $0.76; 25-25.9, $0.78; 26-26.9, $0.80; 27-27.9, $0.82; and 28-28.9, $0.84; rest of schedule same as Humble's in West Central Texas.

†Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*East Central Texas

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| Below 29 | $0.91 | 35-35.9 | $1.05 |
| 29-29.9 | 0.93 | 36-36.9 | 1.07 |
| 30-30.9 | 0.95 | 37-37.9 | 1.09 |
| 31-31.9 | 0.97 | 38-38.9 | 1.11 |
| 32-32.9 | 0.99 | 39-39.9 | 1.13 |
| 33-33.9 | 1.01 | 40 and above | 1.15 |
| 34-34.9 | 1.03 | | |

*Including Anderson, Cherokee, Limestone, Navarro and Van Zandt counties.

Stanolind Oil & Gas Co., Jan. 20, posted in Marion County (East Central Texas), below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Jan. 9, Sinclair-Prairie met Humble's prices in Mexia.

### PANHANDLE TEXAS

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 9, 1936)

| | Gray County | Carson-Hutchinson |
|---|---|---|
| Below 35 | $0.86 | $0.81 |
| 35-35.9 | 0.88 | 0.83 |
| 36-36.9 | 0.90 | 0.85 |
| 37-37.9 | 0.92 | 0.87 |
| 38-38.9 | 0.94 | 0.89 |
| 39-39.9 | 0.96 | 0.91 |
| 40 & above | 0.98 | 0.93 |

Jan. 9, above prices met by Sinclair-Prairie, Magnolia and The Texas Co. in the entire area, also by Continental Oil in Carson-Hutchinson.

### EAST TEXAS

(Effective Jan. 9, 1936)

Stanolind, Humble, Shell, Sinclair-Prairie, Texas, Sun Oil and Magnolia ..... $1.15

Shell also posted on Jan. 9, in Livingston area, Polk County, Texas, $1.15.

### NORTHEAST TEXAS

**(Posted by Humble, Nov. 1, 1936)**

Talco ..... $0.65

**(Posted by Magnolia, May 1, 1936)**

Cass County (Rodessa field):
Below 29 ..... $0.86
29-29.9 ..... 0.88
Rest of schedule same as S. O. La. posts in Rodessa, which see below.

### WEST TEXAS AND NEW MEXICO

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 14, 1936)

(Including Andrews, Crane, Crockett, Ector, Glasscock, Howard, Winkler and Upton Counties, Texas and Lea county, New Mexico).

| | | | |
|---|---|---|---|
| Below 29 | $0.75 | 33-33.9 | $0.84 |
| 29-29.9 | 0.76 | 34-34.9 | 0.86 |
| 30-30.9 | 0.78 | 35-35.9 | 0.88 |
| 31-31.9 | 0.80 | 36 and above | 0.90 |
| 32-32.9 | 0.82 | | |

Pecos, West Texas ..... $0.85

***Posted by Continental Oil Co.***

(Effective Jan. 9, 1936)

Artesia, Jackson and Maljamar pools, N. M. .. $0.80

Jan. 16, Magnolia met Humble in Crane, Upton, Howard, Glasscock, Mitchell and Winkler.

Jan. 9, Texas Co. posted Winkler and Lea counties at $0.85; Crane and Upton, $0.80.

Shell Petroleum Corp., on Jan. 23, met Humble in Crane, Glasscock, Howard, Pecos (except Yates shallow pool), Winkler, and Upton counties, Tex., and in Lea County, N. Mex. On Jan. 9, Shell posted in Yates shallow pool in Pecos county, Tex., $0.75.

### SOUTH AND SOUTHWEST TEXAS

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 14, 1936)

| | | | |
|---|---|---|---|
| Darst Creek | $0.97 | Pettus | $1.25 |
| Salt Flat | 0.97 | Tomball | 1.30 |

(Effective Nov. 1, 1936)

| | | | |
|---|---|---|---|
| Saxet | $0.95 | Mirando | $0.90 |
| Heyser heavy | 0.90 | Placedo heavy | 0.90 |
| Heyser light | 1.15 | Taft | 0.95 |

Shell Pet. Corp. on Jan. 9, posted $0.97 in Salt Flat district, Tex.

*Anahuac and *Dickinson (including Flour Bluff, Nov. 1, 1936)

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| 30-30.9 | $1.04 | 36-36.9 | $1.16 |
| 31-31.9 | 1.06 | 37-37.9 | 1.18 |
| 32-32.9 | 1.08 | 38-38.9 | 1.20 |
| 33-33.9 | 1.10 | 39-39.9 | 1.22 |
| 34-34.9 | 1.12 | 40 and above | 1.24 |
| 35-35.9 | 1.14 | | |

*Anahuac in Chambers county; Dickinson Galveston.

Jan. 9, The Texas Co. posted $0.97 for Darst Creek.

Jan. 9, Magnolia posted $0.97 in Darst Creek; $1.30 in Tomball; $0.90 in Luling; $1.00 in Lytton Springs; $1.10 for Cleveland, Liberty county, Tex.; $1.03 in Hardin, Liberty county, Tex. Nov. 1, 1936, posted $0.90 for Mirando, Tex.

***Posted by Humble***

*Conroe and Raccoon Bend*

(Deep sand crudes)

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| 35-35.9 | $1.24 | 38-38.9 | $1.30 |
| 36-36.9 | 1.26 | 39-39.9 | 1.32 |
| 37-37.9 | 1.28 | 40 and above | 1.34 |

Jan. 9, Texas Co. met above prices.

### NORTH LOUISIANA-ARKANSAS

***Posted by Standard Oil Co. of Louisiana***

(Effective Jan. 10, 1936)

(In Caddo, Homer, Haynesville, Sabine, De Soto, Rodessa, Sarepta, Carterville, El Dorado, and Miller county).

| | | | |
|---|---|---|---|
| Below 25 | $0.78 | 33-33.9 | $0.96 |
| 25-25.9 | 0.80 | 34-34.9 | 0.98 |
| 26-26.9 | 0.82 | 35-35.9 | 1.00 |
| 27-27.9 | 0.84 | 36-36.9 | 1.02 |
| 28-28.9 | 0.86 | 37-37.9 | 1.04 |
| 29-29.9 | 0.88 | 38-38.9 | 1.06 |
| 30-30.9 | 0.90 | 39-39.9 | 1.08 |
| 31-31.9 | 0.92 | 40 and above | 1.10 |
| 32-32.9 | 0.94 | | |

Smackover, Ark ..... $0.75
Nevada, Ark ..... 0.65
Urania, La. (La. Oil Refg. Co., Jan. 1, '34) ... 0.87
Tepetate, La. (Continental Oil, Jan. 9, '36) ... 1.12

The Texas Co., effective Jan. 9, posted in No. La.-Ark. same prices as Humble posts in West Central Texas. It also posted $0.80 for Smackover and $1.12 for La Fitte, La.

Magnolia Petroleum Co., effective Jan. 16, posted on No. La.-Ark. crude, prices beginning with $0.86 for below 29 gravity, plus 2 cent differential to 40 and above, at $1.10; this posting includes Rodessa, beginning March 16, 1936. It also posted on the same day, Eldorado (East Field), and Smackover, Ark., $0.75; Lockport, La., below 20 gravity, at $0.92, plus 2c differential, to 34 and above, which is $1.22; and for Iowa, La. and Cameron-Meadow field Cameron Parish, La., below 20 at $0.82, plus 2c differential, to 34 and above, at $1.12.

Stanolind Oil & Gas Co., Jan. 20, posted in Caddo Parish, La., below 29 oil at $0.86, plus 2c differential, to 40 and above at $1.10.

Shell Pet. on Jan. 9, posts same schedule in Black Bayou and White Castle, La. as Magnolia posts in Lockport, which see in above paragraph and in Iowa district, La. posts same schedule as Magnolia in Iowa and Cameron, which also see above.

(*Continued on next page*)

## J. E. Gooderidge Promoted To Assistant Director Of Sales for Union

LOS ANGELES, Nov. 27.—J. E. Gooderidge, for six years special sales representative for the Union Oil Co., has been appointed assistant to V. H. Kelly, director of sales.

Mr. Gooderidge, a native of England, joined the Union company in 1930, as special sales representative. His duties were in the sale and service of company products to contractors on major construction projects throughout the western states.

In his new position, Mr. Gooderidge will continue the supervision of this work and in furthering general sales.

J. E. Gooderidge

## James River Oil Company Opens Norfolk, Va. Ocean Terminal

RICHMOND, Va., Nov. 28.—The new ocean terminal of James River Oil Co. at Norfolk, Va., has been put into operation.

With 30 feet of water at its wharf, the new terminal is ideally situated opposite the Norfolk navy yard. It has storage now for 80,000 barrels, with two additional tanks of 10,000 barrels each to be installed shortly.

The terminal is unusual in that the pipelines have no angle-joints; 5000 feet of pipe without a single T, L or 45° joint. The pipes were heated and bent right on the job.

# CRUDE OIL MARKETS

*(Continued from preceding page)*

***GULF COASTAL FIELDS**

***Posted by Humble Oil & Refining Co.***

(Effective Jan. 9, 1936)

| | | | |
|---|---|---|---|
| Below 18 | $0.88 | 26-26.9 | $1.06 |
| 18-18.9 | 0.90 | 27-27.9 | 1.08 |
| 19-19.9 | 0.92 | 28-28.9 | 1.10 |
| 20-20.9 | 0.94 | 29-29.9 | 1.12 |
| 21-21.9 | 0.96 | 30-30.9 | 1.14 |
| 22-22.9 | 0.98 | 31-31.9 | 1.16 |
| 23-23.9 | 1.00 | 32-32.9 | 1.18 |
| 24-24.9 | 1.02 | 33-33.9 | 1.20 |
| 25-25.9 | 1.04 | 34 and above | 1.22 |

(Effective Nov. 1, 1936)

| | |
|---|---|
| Refugio heavy | $0.95 |

Effective Dec. 1, 1934, Humble prices are based on 99% tank tables at 60F. Allowance or deduction of 1% is made for each 25° change in temperature above or below 60F.

*Includes these fields: Barbers Hill, Goose Creek, Hull, Humble, Liberty, Moss Bluff, Mykawa, Orange, Pierce Junction, Plymouth, Rabbs Ridge, Raccoon Bend (shallow sand), Refugio light, Sour Lake, Spindletop, Sugarland and West Columbia.

Above gravity and crude schedule met Jan. 9 by The Texas Co., except that Texas Co. posts $0.92 for below 20. Jan. 9, Sinclair-Prairie met above Humble schedule in full.

**ROCKY MOUNTAIN FIELDS**

***Posted by Stanolind Oil & Gas Co.***

(Effective Jan. 9, 1936)

Salt Creek, Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma, Kansas which see.

| | |
|---|---|
| Greybull-Torchlight | $1.28 |
| Hles, light, Col | 1.06 |
| Hles, heavy | 1.00 |
| Hogback, N. M | 1.21 |

(Effective Nov. 4, 1936)

| | |
|---|---|
| Grass Creek, heavy | $0.62 |
| Frannie light | 0.70 |
| Frannie heavy | 0.62 |
| Hamilton Dome, Wyo | 0.57 |

(Effective July 20, 1936)

| | |
|---|---|
| Elk Basin, light | $1.18 |
| Grass Creek, light | 1.18 |

Pondera, Mont., (Postings discontinued July 1, 1936, but Stanolind pays price posted by Ohio Oil for Kevin-Sunburst, less 20c per bbl.)

***Posted by Ohio Oil Co.***

(Effective July 20, 1936)

| | |
|---|---|
| Elk Basin, Wyo. | $1.18 |
| Grass Creek, light | 1.18 |
| Rock Creek | $1.085 |

(Effective Nov. 1, 1936)

| | |
|---|---|
| Big Muddy | 1.11 |

(Effective June 5, 1936)

| | |
|---|---|
| Sunburst, Mont. | $1.15 |

***Posted by *International Refg. Co.***

(Effective June 5, 1936)

Cut Bank, Mont.

| | | | |
|---|---|---|---|
| Below 35° | $1.29 | 38-38.9 | $1.37 |
| 35-35.9 | 1.31 | 39-39.9 | 1.39 |
| 36-36.9 | 1.33 | 40 and above | 1.41 |
| 37-37.9 | 1.35 | | |

*Texas Co. subsidiary.

***Posted by Continental Oil Co.***

(Effective Jan. 9, 1936)

| | |
|---|---|
| Cat Creek, Mont. | $1.28 |

**CALIFORNIA, *Posted by Standard Oil of California***

*All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936, and Elk Hills, effective June 22, 1936*

| Gravity | Signal Hill (Long Beach) | Seal Beach | Alamitos Heights | Huntington Beach | Inglewood | Playa del Rey | Olinda Brea Canon | Athens Rosecrans | Dominguez | Torrance | Richfield | Whittier East Coyote (La Habra) | Montebello | West Coyote Hills | Santa Fe Springs | ‡Newhall and others | Mountain View | Elk Hills | Buena Vista Hills **Midway-Sunset | Lakeview Area | Lost Hills | Coalinga | Wheeler Ridge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14-14.9 | $0.80 | 0.79 | 0.74 | 0.78 | 0.79 | 0.80 | 0.76 | .... | .... | 0.80 | 0.76 | 0.76 | 0.77 | 0.78 | .... | 0.70 | .... | 0.70 | 0.70 | 0.65 | 0.70 | 0.70 | .... |
| 15-15.9 | .80 | .79 | .74 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 16-16.9 | .80 | .79 | .74 | .78 | .79 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 17-17.9 | .80 | .79 | .74 | .78 | .81 | .80 | .76 | .... | .... | .80 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 18-18.9 | .80 | .79 | .74 | .78 | .84 | .80 | .78 | .... | .... | .82 | .76 | .76 | .77 | .78 | .... | .70 | .... | .70 | .70 | .65 | .70 | .70 | .... |
| 19-19.9 | .82 | .79 | .74 | .82 | .87 | .84 | .81 | .... | .... | .85 | .76 | .78 | .77 | .78 | .... | .70 | .70 | .74 | .74 | .66 | .74 | .71 | .70 |
| 20-20.9 | .85 | .79 | .74 | .85 | .90 | .88 | .84 | .... | .... | .88 | .78 | .82 | .77 | .80 | .... | .... | .70 | .78 | .78 | .68 | .78 | .72 | .70 |
| 21-21.9 | .88 | .79 | .74 | .89 | .93 | .93 | .88 | .... | .... | .91 | .80 | .85 | .77 | .84 | .78 | .... | .73 | .82 | .82 | .71 | .82 | .74 | .70 |
| 22-22.9 | .92 | .82 | .74 | .92 | .96 | .98 | .92 | .... | .... | .93 | .84 | .89 | .79 | .88 | .78 | .... | .77 | .87 | .87 | .74 | .86 | .78 | .72 |
| 23-23.9 | .95 | .86 | .77 | .96 | .99 | 1.02 | .96 | .84 | .79 | .96 | .88 | .93 | .82 | .92 | .78 | .... | .80 | .92 | .92 | .77 | .90 | .82 | .76 |
| 24-24.9 | .99 | .91 | .90 | 1.00 | 1.02 | 1.06 | .99 | .88 | .81 | .99 | .91 | .96 | .85 | .96 | .82 | .... | .84 | .97 | .97 | .80 | .94 | .86 | .79 |
| 25-25.9 | 1.03 | .95 | .82 | 1.03 | 1.05 | 1.11 | 1.03 | .93 | .83 | 1.20 | .95 | .... | .89 | .99 | .86 | .... | .88 | 1.01 | 1.01 | .83 | .98 | .90 | .83 |
| 26-26.9 | 1.06 | 1.00 | .85 | 1.07 | 1.09 | 1.16 | 1.06 | .98 | .86 | 1.05 | .98 | .... | .92 | 1.03 | .90 | .... | .91 | 1.06 | 1.06 | .86 | 1.02 | .... | .... |
| 27-27.9 | 1.10 | 1.05 | .88 | 1.11 | 1.12 | .... | 1.10 | 1.03 | .88 | .... | 1.02 | .... | .96 | 1.06 | .95 | .... | .95 | 1.10 | 1.10 | .88 | 1.06 | .... | .... |
| 28-28.9 | 1.14 | 1.10 | .90 | 1.14 | 1.15 | .... | 1.14 | 1.07 | .90 | .... | 1.06 | .... | .99 | 1.10 | .99 | .... | .99 | 1.15 | 1.15 | .91 | 1.10 | .... | .... |
| 29-29.9 | 1.17 | 1.15 | .93 | 1.18 | 1.18 | .... | 1.17 | 1.12 | .93 | .... | 1.09 | .... | 1.03 | 1.14 | 1.03 | .... | 1.02 | 1.20 | 1.20 | .94 | 1.14 | .... | .... |
| 30-30.9 | 1.21 | 1.19 | .95 | 1.22 | 1.21 | .... | 1.21 | 1.17 | .95 | .... | .... | .... | 1.07 | 1.17 | 1.08 | .... | 1.06 | 1.25 | 1.25 | .97 | 1.18 | .... | .... |
| 31-31.9 | | | | | 1.24 | .... | 1.24 | 1.22 | .97 | .... | .... | .... | 1.11 | 1.21 | 1.12 | .... | 1.09 | 1.29 | 1.29 | .99 | | | |
| 32-32.9 | *Elwood Terrace | | | | 1.27 | .... | 1.27 | 1.27 | 1.00 | .... | .... | .... | 1.14 | 1.25 | 1.16 | .... | 1.13 | 1.34 | 1.34 | 1.02 | Kettleman Hills | | |
| 33-33.9 | .... | 1.28 | .... | .... | .... | .... | .... | 1.32 | .... | .... | .... | .... | 1.18 | 1.28 | 1.20 | .... | 1.17 | 1.38 | 1.38 | 1.04 | .... | 1.19 | .... |
| 34-34.9 | .... | 1.32 | .... | .... | .... | .... | .... | 1.37 | .... | .... | .... | .... | 1.22 | 1.32 | 1.25 | .... | 1.20 | .... | .... | .... | .... | 1.23 | .... |
| 35-35.9 | .... | 1.35 | .... | .... | .... | .... | .... | 1.42 | .... | .... | .... | .... | 1.25 | .... | 1.29 | .... | .... | .... | .... | .... | .... | 1.27 | .... |
| 36-36.9 | .... | 1.39 | .... | .... | .... | .... | .... | 1.46 | .... | .... | .... | .... | 1.29 | .... | 1.33 | .... | .... | .... | .... | .... | .... | 1.31 | .... |
| 37-37.9 | .... | 1.43 | .... | .... | .... | .... | .... | 1.51 | .... | .... | .... | .... | 1.32 | .... | 1.37 | .... | .... | .... | .... | .... | .... | 1.35 | .... |
| 38-38.9 | .... | .... | .... | .... | .... | .... | .... | 1.56 | .... | .... | .... | .... | 1.36 | .... | 1.42 | .... | .... | .... | .... | .... | .... | 1.39 | .... |
| 39-39.9 | .... | .... | .... | .... | .... | .... | .... | 1.61 | .... | .... | .... | .... | 1.40 | .... | .... | .... | .... | .... | .... | .... | .... | 1.43 | .... |
| 40-40.9 | .... | .... | .... | .... | .... | .... | .... | 1.66 | .... | .... | .... | .... | 1.43 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

F.O.B. Standard Pipe Line

*F. o. b. ship.

‡Also McKittrick, Kern River, Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted. **Except Lakeview Area.

# TRANSACTIONS IN OIL STOCKS ON NEW YORK STOCK EXCHANGE

| 1935 High | 1935 Low | 1936 High | 1936 Low | Listed Shares | Par Value | Company | Current Dividend | Last Div. Paid | Transactions Week Ended Nov. 28, 1936 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | 48½ | 125½ | 75 | 788,675 | N.P. | Amerada Corp. | 50cQ | Oct. 31, 36 | 2,700 | 102½ | 94⅛ | 102 | + 7½ |
| 44 | 29¾ | 51⅛ | 36 | 2,290,412 | $25 | Associated Oil Co. | 25c | May 1, 36 | 140 | 48 | 45 | 47½ | — ⅝ |
| 28 | 20½ | 35⅛ | 26⅝ | 2,664,901 | 25 | Atlantic Refining Co. | 25cQ | Sept. 15, 36 | 10,300 | 31¾ | 30½ | 31⅜ | + ½ |
| .... | .... | 118 | 109 | ..... | .... | do pfd A | .... | ..... | 400 | *118 | 115 | 118 | + 3⅜ |
| 14¾ | 5⅞ | 20⅝ | 14⅛ | 2,131,090 | 5 | Barnsdall Corp. | 20c | Nov. 2, 36 | 24,600 | 20 | 18¾ | 19⅞ | + ½ |
| 9⅞ | 6¾ | 30 | 8¼ | 1,444,970 | N.P. | Colonial Beacon Oil Co. | .... | ..... | ..... | .... | .... | .... | .... |
| 12¼ | 6½ | 15¼ | 11½ | 13,983,287 | N.P. | Consolidated Oil Corp. | 40c | Nov. 16, 36 | 46,200 | 13¾ | 12¾ | 13⅜ | + ¼ |
| 112½ | 108½ | 106⅛ | 101 | 132,771 | $100 | do pfd | $1.25Q | Dec. 1, 36 | ..... | .... | .... | .... | .... |
| 35 | 15⅛ | 39 | 28⅛ | 4,682,662 | 5 | Continental Oil Co. | 50c | Oct. 31, 36 | 32,100 | 37⅞ | 35⅝ | 37¾ | + 1⅛ |
| 22½ | 11⅜ | 34¾ | 21¼ | 413,333 | $10 | General Asphalt Co. | .... | ..... | ..... | .... | .... | .... | .... |
| 7 | 1½ | 12¼ | 6⅜ | 1,098,618 | 25 | Houston Oil Co. v.t.c. | .... | ..... | 68,100 | 10⅞ | 9⅝ | 10⅝ | + ⅞ |
| 5¼ | 2⅛ | 15⅛ | 4⅛ | 1,207,132 | 10 | Indian Refining Co. | .... | ..... | 1,500 | 13 | 12½ | 13 | + 1 |
| 1⅞ | ⅝ | .... | .... | 1,309,060 | N.P. | Louisiana Oil Ref'g. Corp. | .... | ..... | ..... | .... | .... | .... | .... |
| 15 | 4½ | 51½ | 13 | 40,000 | $100 | do pfd | .... | ..... | 1,320 | 34⅞ | 31 | 32½ | 0 |
| 3 | 1 | 6¾ | 2⅛ | 330,000 | N.P. | Maracaibo Oil Exploration Co. | .... | ..... | 7,300 | 4⅛ | 3⅝ | 4⅛ | + ⅛ |
| 20½ | 9½ | 30⅞ | 17¼ | 1,855,912 | $10 | Mid-Continent Pet. Corp. | 75c | Dec. 1, 36 | 7,000 | 29½ | 27¾ | 29 | + ⅝ |
| 17⅝ | 10⅜ | 26¼ | 16¾ | 1,399,345 | N.P. | Mission Corp. | .... | ..... | 1,200 | 23 | 21½ | 22¾ | + ¼ |
| 14¼ | 9¼ | 17½ | 12¼ | 6,563,377 | N.P. | Ohio Oil Co. | 25c | June 15, 36 | 40,900 | 14⅝ | 13⅝ | 14½ | + ⅝ |
| 21 | 10¾ | 20⅜ | 12¼ | 4,699,885 | $5 | Pan Amer. Pet. & Transp. Co. | .... | ..... | 3,400 | 14½ | 13⅛ | 13½ | + ½ |
| 1⅞ | ½ | 4¼ | 1⅜ | 199,370 | N.P. | Panhandle Prod. & Ref'g. Co. | .... | ..... | 5,200 | 3⅛ | 2¼ | 2⅞ | + ⅝ |
| 20 | 6½ | 74½ | 18½ | 17,994 | $100 | do pfd | .... | ..... | 390 | 64½ | 53¼ | 62⅜ | + 9⅜ |
| 14 | 7⅜ | 18 | 12⅜ | 2,153,444 | 5 | Petroleum Corp. of America | 25c | Sept. 30, 36 | 5,200 | 15½ | 14⅝ | 15¼ | + ½ |
| 40 | 13⅜ | 49⅜ | 38⅛ | 4,152,836 | N.P. | Phillips Petroleum Co. | $1.00C | Dec. 1, 36 | 21,800 | 46⅝ | 43⅝ | 46¼ | + ½ |
| 1¼ | ¼ | 2¼ | ⅞ | 1,184,817 | $25 | Pierce Oil Corp. | .... | ..... | ..... | .... | .... | .... | .... |
| 8 | 2⅜ | 17 | 8 | 150,000 | 100 | do pfd | .... | ..... | 1,000 | 12½ | 11½ | 12¼ | + ½ |
| 1¾ | ⅝ | 2½ | 1½ | 2,500,000 | N.P. | Pierce Petroleum Corp. | .... | ..... | 10,600 | 2⅜ | 2 | 2¼ | + ⅛ |
| 18 | 6½ | 20⅝ | 11⅞ | 1,050,000 | $5 | Plymouth Oil | 25cQ | Sept. 30, 36 | 12,000 | 20 | 18 | 20 | + 1⅜ |
| 17 | 5⅞ | 24⅞ | 16¼ | 3,038,370 | N.P. | Pure Oil Co. | .... | ..... | 30,900 | 18½ | 17¼ | 18¼ | + ¼ |
| 103 | 34¾ | 118 | 91¼ | 167,640 | 100 | do 6% pfd | $1.50 | Oct. 1, 36 | 1,600 | 99 | 98 | 98½ | 0 |
| 119⅞ | 49⅝ | 133½ | 103 | 130,000 | 100 | do 8% pfd | $2.00 | Oct 1, 36 | 180 | 110 | 108 | 110 | + 1 |
| 48½ | 29½ | 57⅝ | 48⅜ | 425,342 | a | Royal Dutch Co. (N. Y. shares) | $1.70 | Aug. 1, 35 | ..... | .... | .... | .... | .... |
| 36⅞ | 20¾ | 42½ | 30½ | 1,244,383 | N.P. | Seaboard Oil of Del. | 25c | Sept. 15, 36 | 12,700 | 36 | 32½ | 35⅞ | + 2¼ |
| 39 | 20⅜ | 48 | 38½ | 56,148 | £2 | Shell Transport & Trading Co. | $1.237 | July 24, 35 | ..... | .... | .... | .... | .... |
| 16½ | 5½ | 28 | 14⅜ | 13,070,625 | N.P. | Shell Union Oil Corp. | .... | ..... | 22,800 | 27⅜ | 24¾ | 26⅞ | + ⅝ |
| 111 | 63½ | 127½ | 110½ | 400,000 | $100 | do pfd. w.w. | $1.37½ | Oct. 1, 36 | 10,400 | 127½ | 125 | 125¾ | 0 |
| 18¾ | 4⅜ | 6¾ | 3½ | 461,000 | 10 | Simms Petroleum Co. | **$1.00 | July 31, 36 | 400 | 4 | 3¾ | 4 | + ¼ |
| 20½ | 6½ | 37¼ | 19½ | 1,008,549 | 15 | Skelly Oil Co. | .... | ..... | 4,900 | 36⅞ | 34 | 36⅞ | + 2¼ |
| 116¼ | 60 | 132 | 116 | 120,000 | 100 | do pfd | $1.50 | Nov. 2, 36 | 2,400 | 125¼ | 124⅝ | 125 | — ⅜ |
| 15⅜ | 10⅝ | 17½ | 12½ | 31,151,075 | 15 | Socony Vacuum Oil Co. | 25c | Sept. 15, 36 | 76,500 | 16½ | 15⅞ | 16⅛ | + ⅛ |
| 116 | 111 | 113½ | 109⅓ | 764,925 | 100 | S. O. Export Corp. pfd. | $2.50 S.A. | June 30, 36 | ..... | .... | .... | .... | .... |
| 41⅛ | 27¾ | 47⅝ | 35 | 13,014,754 | N.P. | S. O. California | 30c | Sept. 15, 36 | 18,800 | 39¼ | 38 | 38⅜ | 0 |
| 33⅜ | 23 | 45¼ | 32¾ | 15,215,677 | $25 | S. O. Indiana | 50c | Sept. 15, 36 | 20,400 | 44 | 42⅞ | 43¾ | + ⅞ |
| 32 | 20 | 30¾ | 25 | 145,441 | 10 | S. O. Kansas | .... | ..... | 400 | 30⅜ | 30 | 30 | 0 |
| 52⅜ | 35¾ | 70⅛ | 51⅛ | 26,200,825 | 25 | S. O. New Jersey | 75c | June 15, 36 | 49,400 | 66⅞ | 64⅝ | 66⅛ | + ¼ |
| 77 | 60½ | 91 | 72 | 2,019,093 | N.P. | Sun Oil Co. | 25cQ | Sept. 15, 36 | 1,600 | 77 | 76¾ | 76¾ | — ⅝ |
| 121 | 115½ | 125 | 118 | 100,000 | $100 | do pfd | $1.50Q | Dec. 1, 36 | 20 | *125 | 123¼ | 125 | + 2½ |
| 3½ | 1⅝ | 6¾ | 3 | 966,979 | $1 | Superior Oil Corp. (Del.) | .... | ..... | 16,500 | 4¼ | 4 | 4¼ | 0 |
| 30¼ | 16½ | 50⅜ | 28⅞ | 9,851,236 | $25 | The Texas Corp. | 50c | Oct. 1, 36 | 24,600 | 49¾ | 46 | 49⅛ | + 2⅛ |
| 9¼ | 3¼ | 15¼ | 7½ | 930,570 | 10 | Texas Pacific Coal & Oil Co. | 25c | Aug. 1, 36 | 27,700 | 13⅜ | 11⅞ | 13⅜ | + 1¼ |
| 15⅞ | 7⅝ | 21⅝ | 14⅜ | 5,998,919 | N.P. | Tide Water Associated Oil Co. | 15c | Dec. 1, 36 | 16,900 | 20⅜ | 19⅜ | 20 | — ⅝ |
| 104½ | 84 | 106½ | 100⅝ | 695,503 | $100 | do pfd. C. T. V. | $1.50 | Oct. 1, 36 | 1,200 | 105¼ | 104⅞ | 105 | — ⅝ |
| 48 | 26¾ | 60 | 51 | 2,191,823 | N.P. | Tide Water Oil Co. | 70c | Nov. 17, 36 | ..... | .... | .... | .... | .... |
| 24 | 14¾ | 28½ | 20⅜ | 4,386,070 | $25 | Union Oil of California | 25cQ | Nov. 10, 36 | 14,500 | 25½ | 23⅜ | 25 | + 1¼ |
| 26½ | 20¼ | 31⅝ | 22⅝ | 1,200,000 | N P. | Union Tank Car Co. | 30cQ | Dec. 1, 36 | 1,100 | 28½ | 27½ | 28½ | — ¾ |
| 1⅝ | ⅝ | 2⅞ | ⅝ | 759,538 | N.P. | Warner Quinlan Co. | .... | ..... | 22,600 | 2¼ | 1¼ | 2 | + ¾ |
| 3⅛ | 1 | 5¼ | 2⅜ | 431,443 | $5 | H. F. Wilcox Oil & Gas Co. | .... | ..... | 9,900 | 4⅜ | 3¾ | 4¼ | + ⅛ |

*New high. †New low. Ex-div. **Dividends of liquidation. ‡ Stock dividend. a Par 33 1/3 florins. C Unclassified.

# STANDARD OIL STOCKS ON NEW YORK CURB MARKET

| 1935 High | 1935 Low | 1936 High | 1936 Low | Listed Shares | Par Value | Company | Current Dividend | Last Div. Paid | Transactions Week Ended Nov. 28, 1936 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 6 | 18 | 12¼ | 36,000 | $25 | Borne Scrymser Co | 75c | Oct. 15, 36 | 50 | 15¼ | 15¼ | 15¼ | 0 |
| 42½ | 30½ | 50 | 39¾ | 200,000 | 50 | Buckeye Pipe Line Co. | 75cQ | Sept. 15, 36 | ..... | .... | .... | .... | .... |
| 157 | 115 | 124¾ | 108⅞ | 120,000 | 25 | Chesebrough Mfg. Co. | $1.50 | Sept 30, 36 | 250 | 120 | 117¾ | 117¾ | — 2¼ |
| 23¾ | 10 | 34¾ | 19⅞ | 6,974,356 | $5 | Creole Petroleum Co | 25c | July 15, 36 | 26,300 | 33½ | 31⅜ | 32⅝ | + 1¾ |
| 38 | 33¼ | 47 | 39 | 50,000 | $50 | Eureka Pipe Line Co. | $1Q | Nov. 2, 36 | ..... | .... | .... | .... | .... |
| 64 | 44 | 76½ | 57 | 8,985,662 | N.P. | Humble Oil & Refg. Co. | 50cQ | Oct. 1, 36 | 9,500 | 72⅞ | 69⅛ | 72¼ | + 2⅜ |
| 22½ | 15⅜ | 24½ | 20 | 26,965,078 | N.P. | Imperial Oil Ltd. | °25cS. | June 1, 36 | 5,000 | 22¼ | 21 | 21⅜ | — ⅝ |
| 22½ | 15⅞ | 24⅜ | 20⅛ | ..... | N.P. | do registered | 25cQ | June 1, 36 | 100 | 21⅝ | 21⅜ | 21⅝ | — 1⅛ |
| 6⅛ | 3⅝ | 9¾ | 5½ | 300,000 | $10 | Indiana Pipe Line Co. | 40c | Nov. 14, 36 | 400 | 8⅜ | 8 | 8⅜ | + ⅜ |
| 39¾ | 28 | 39⅜ | 32⅞ | 14,324,088 | N.P. | International Pet. Co. | °75cS. | June 1, 36 | 4,400 | 37⅛ | 35½ | 35½ | — 1⅞ |
| ..... | ..... | 36½ | 33⅜ | ..... | ..... | do registered | .... | ..... | 100 | 36⅞ | 36⅞ | 36⅞ | + ⅝ |
| 10⅝ | 6¾ | 15¾ | 9¼ | 509,000 | $12.50 | National Transit Co. | 40c | June 15, 36 | 1,200 | 10⅜ | 10¼ | 10⅝ | 0 |
| 4⅞ | 3 | 6¼ | 4¼ | 100,000 | 5 | New York Transit Co. | 15c S.A. | Apr. 15, 36 | 200 | 5⅛ | 5 | 5 | 0 |
| 8 | 5¼ | 9½ | 4⅞ | 120,000 | 10 | Northern Pipe Line Co. | 15c | July 1, 36 | 200 | 9½ | 9½ | 9½ | + ⅛ |
| 107¼ | 90¼ | 110⅜ | 104½ | 562,122 | 100 | Ohio Oil Co. pfd. | $1 50Q | Sept. 15, 36 | 100 | 109⅜ | 109⅜ | 109⅜ | 0 |
| 11 | 5½ | 8 | 5½ | 400,000 | 25 | Penn Mex Fuel Co. | .... | Dec. 22, 33 | 100 | 6½ | 6½ | 6½ | — ½ |
| 34½ | 21⅝ | 42⅛ | 32½ | 1,142,671 | 25 | South Penn Oil Co. | 60c | Sept. 30, 36 | 900 | *42⅛ | 41⅜ | 42 | 0 |
| 15 | 3⅞ | 7⅞ | 3⅞ | 100,000 | 10 | Southern Pipe Line Co. | 10c | Sept. 1, 36 | 200 | 4½ | 4⅛ | 4⅛ | — ¼ |
| 56 | 45¼ | 60 | 45 | 35,000 | 50 | South West Pa. Pipe Lines | $1.00 | Oct. 1, 36 | ..... | .... | .... | .... | .... |
| 24 | 18 | 23⅜ | 17⅛ | 2,604,801 | 10 | S. O. Kentucky | 35c | Sept. 15, 36 | 3,600 | 21⅝ | 20 | 20¼ | — ⅜ |
| 12 | 7¾ | 14⅝ | 11 | 182,803 | 25 | S. O. Nebraska | .... | June 20, 34 | ..... | .... | .... | .... | .... |
| 23⅝ | 11½ | 40 | 21¾ | 753,740 | 25 | S. O. Ohio | 25c | Oct. 15, 36 | 3,400 | 38 | 37 | 37¼ | — ¼ |
| 99½ | 89 | 107½ | 97 | 120,000 | 100 | do 5% pfd. | $1.25Q | Oct. 15, 36 | 50 | 104½ | 104½ | 104½ | — ½ |
| 6 | 2¼ | 10 | 5⅜ | 34,158 | 25 | Swan Finch Oil Corp. | 87½c | Mar. 16, 36 | 100 | 9½ | 9½ | 9½ | + ½ |

*New high. †New low. °Imperial Oil Spec. 37½c June 1, 36. International Pet. Spec. 50c June 1, 36. x Ex dividend.

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**Washington, D. C.**

# Oil and Royalty Stocks on New York Curb

| 1935 High | 1935 Low | 1936 High | 1936 Low | Par Value | Company | Transactions Week Ended Nov. 28, 1936 Sales Shares | High | Low | Last | Week's Change |
|---|---|---|---|---|---|---|---|---|---|---|
| ⅜ | ⅛ | 1⅞ | ⅛ | | N.P. American Maracaibo | 16,400 | 1⅛ | ¾ | 1⅛ | + 1/16 |
| 3⅛ | ⅝ | 7⅝ | 3⅛ | | N.P. Arkansas Nat. Gas | 5,200 | 5⅜ | 5 | 5¼ | — ⅛ |
| 3⅜ | ⅝ | 7¾ | 3¼ | | N.P. do A | 16,300 | 5⅝ | 5 | 5⅝ | + ⅛ |
| 7½ | 2¼ | 10¼ | 7½ | $10 | do pfd | 5,500 | 9⅝ | 9⅛ | 9⅛ | — ½ |
| 16¾ | 14½ | 32¾ | 16½ | | N.P. British Amer. Oil coup. | 400 | 22¼ | 21 | 21 | — 2 |
| .... | .... | 26¼ | 21⅜ | | N.P. do registered | ..... | .... | .... | .... | .... |
| 4¼ | 1⅝ | 4⅞ | 2 | | $¼ Carib Syndicate | 9,600 | 2½ | 2⅛ | 2¼ | — ⅛ |
| 3¼ | ¾ | 7⅜ | 3 | | N.P. Cities Service | 34,600 | 3¾ | 3⅜ | 3¾ | 0 |
| 47¼ | 6½ | 66 | 41½ | $100 | do pfd | 4,400 | 49½ | 45 | 48¾ | + 1¾ |
| 4⅜ | ⅜ | 6½ | 3¾ | 10 | do pfd. B | 100 | 4¼ | 4¼ | 4¼ | — ¼ |
| 43 | 6 | 63 | 40 | 100 | do pfd. BB | 10 | 46 | 46 | 46 | — 2 |
| 2⅛ | ½ | 4 | ⅝ | | N.P. Colon Oil Corp. | ..... | .... | .... | .... | .... |
| 1½ | ⅛ | 6½ | ¾ | | N.P. Columbia Oil & Gas vtc. | 93,500 | 8 | 6⅛ | 8 | + 1¾ |
| 3 | 1 | 5 | 2 | $1 | Consolidated Royalty | 2,000 | 2⅜ | 2⅜ | 2⅜ | 0 |
| 1½ | ¼ | 4⅛ | 1⅛ | | N.P. Cosden Oil | 8,300 | 3⅛ | 2⅞ | 3⅛ | + ⅜ |
| 6¼ | ¾ | 28½ | 6½ | $100 | do pfd | 3,500 | *28½ | 24⅜ | 27½ | + 4 |
| 2½ | ⅝ | 2¾ | 1¾ | | N.P. Crown Central Pet. | 8,100 | 2 | 1⅞ | 2 | 0 |
| 8⅞ | 4 | 15¼ | 9 | | N.P. Darby Petroleum | 5,300 | 16 | 14⅝ | 16 | + 1 |
| 2 | ¾ | 6¾ | 1⅞ | | N.P. Derby Oil & Refg. | 5,400 | 6⅛ | 5⅝ | 6⅛ | + ⅝ |
| 20 | 20 | 81 | 25½ | | N.P. do pfd | 25 | 79 | 79 | 79 | 0 |
| 74¾ | 50¼ | 117 | 72 | $25 | Gulf Oil Corp. | 7,800 | 108¾ | 102⅞ | 108½ | + 2 |
| 4¼ | 1⅜ | 6¼ | 2⅝ | | N.P. Indian Ter. Illg. Oil A | 900 | 4¼ | 4 | 4⅛ | — ⅛ |
| 4¼ | 1⅛ | 6⅛ | 3 | | N.P. do B | 700 | 4¼ | 4 | 4⅛ | + ⅛ |
| 3 | 1⅞ | 5⅝ | 2⅝ | | N.P. Kirby Petroleum | 1,300 | 4⅛ | 4 | 4 | — ⅛ |
| ¾ | ¼ | 2 | ½ | $25 | Leonard Oil Dev. | 2,500 | ⅛ | ⅛ | ⅞ | 0 |
| 8¼ | 3½ | 15½ | 7⅜ | | N.P. Lion Oil Refg. | 4,400 | 14½ | 14⅛ | 14⅜ | + ¼ |
| 10⅞ | 4½ | 14¼ | 9⅞ | | N.P. Lone Star Gas | 2,800 | 12⅛ | 11¾ | 12⅛ | — 1/16 |
| 19 | 4 | 22½ | 13¾ | | N.P. Margay Oil Co. | ..... | .... | .... | .... | .... |
| 2⅜ | ⅞ | 4⅛ | 1¼ | | N.P. Mexico-Ohio Oil | ..... | .... | .... | .... | .... |
| 3⅜ | 1⅞ | 4¾ | 1⅞ | | N.P. Michigan Gas & Oil | 1,400 | 3 | 2⅛ | 3 | + ⅜ |
| 3⅛ | ⅞ | 6 | 3 | | N.P. Mid. States Pet. A vtc. | 1,200 | 5⅛ | 5 | 5 | 0 |
| ⅛ | ¼ | 2⅝ | ⅛ | | N.P. do B vtc. | 1,100 | 1⅜ | 1¼ | 1⅜ | 0 |
| ½ | ¼ | ⅛ | ¼ | $1 | Mountain & Gulf | ..... | .... | .... | .... | .... |
| 5¾ | 4⅛ | 8⅜ | 5 | 10 | Mountain Producers | 2,400 | 6⅞ | 6½ | 6⅞ | + ⅛ |
| 20 | 11¾ | 23 | 17¾ | | N.P. National Fuel Gas | 2,900 | 18⅛ | 18⅜ | 18⅞ | — 1/16 |
| 3¼ | 2 | 4½ | 2⅞ | $5 | New Bradford Oil | 3,100 | 4½ | 3½ | 4½ | + 1¼ |
| 4 | 2 | 8⅜ | 3⅜ | | N.P. North Central Texas | 900 | 5¾ | 5⅝ | 5¾ | + ¼ |
| 1/16 | 1/16 | 1/16 | 1/16 | | N.P. North European | 2,800 | 1/16 | ⅛ | ⅛ | + 1/16 |
| 12¾ | 9⅜ | 15¼ | 13½ | | N.P. Oil Stocks Ltd. A | ..... | .... | .... | .... | .... |
| 4⅜ | 1¼ | 8⅛ | 3¼ | | N.P. Pantepec of Venezuela | 195,600 | *8⅛ | 6¾ | 8⅛ | + 1 |
| ⅜ | ⅛ | 1 | 1/16 | | N.P. Producers Royalty | 4,500 | ⅜ | 1/16 | ⅜ | + 1/16 |
| 3¾ | ½ | 17¾ | 3 | | N.P. Red Bank Oil | 10,900 | *17⅜ | 15¼ | 17⅝ | + 3⅛ |
| ½ | ⅛ | 1½ | 1/16 | | N.P. Reiter-Foster Oil | 400 | ⅛ | 1/16 | ⅛ | + 1/16 |
| 2⅞ | ½ | 2¾ | ¼ | $25 | Richfield Oil pfd | ..... | .... | .... | .... | .... |
| 5 | 1½ | 19¼ | 4½ | $1 | Root Petroleum | 4,400 | 14½ | 13¾ | 14¼ | — ⅛ |
| 15⅛ | 8 | 23 | 14½ | 20 | do conv. pr. pfd. | 100 | 18¼ | 18¼ | 18¼ | — ¼ |
| .... | .... | 39 | 26¾ | $10 | Royalty Corp. pfd. | ..... | .... | .... | .... | .... |
| 2½ | ⅝ | 4⅜ | 1⅞ | | N.P. Ryan Consolidated | 900 | 3¼ | 3 | 3¼ | 0 |
| 1 | 1/16 | 2⅛ | ½ | $10 | Salt Creek Consolidated | ..... | .... | .... | .... | .... |
| 7½ | 5½ | 10 | 5¾ | 10 | Salt Creek Prod. | ..... | .... | .... | .... | .... |
| 6⅞ | 4⅜ | 11¼ | 6¼ | | N.P. Southland Royalty | 1,300 | 8¼ | 7¾ | 8¼ | + ½ |
| 2⅞ | ⅞ | 5 | 2⅝ | $5 | Sunray Oil | 6,500 | 3⅝ | 3¼ | 3½ | 0 |
| .... | .... | 49 | 47½ | | do pfd | ..... | .... | .... | .... | .... |
| 4 | 2 | 6⅞ | 4¼ | $1 | Swiss Oil Corp. | ..... | .... | .... | .... | .... |
| 6⅞ | 5 | 9¾ | 4½ | | N.P. Texon Oil & Land | 2,700 | 6⅛ | 5¾ | 6⅛ | + ¼ |
| .... | .... | 7 | 2⅝ | | Venezuela Mex. | 1,400 | 6⅜ | 5½ | 6¼ | + ¾ |
| 2¼ | 1/16 | 3½ | 1¼ | $1 | Venezuela Petroleum | 16,400 | 2⅛ | 1⅝ | 2 | + ½ |
| 6⅛ | 3½ | 11 | 5⅝ | $1 | Woodley Petroleum | 600 | 9 | 8⅝ | 8¾ | + ⅛ |

*New high. †New low.

# NEW YORK BONDS

**Week Ended Nov. 28**

| | High | Low | Last | Change |
|---|---|---|---|---|
| Atlantic Refg. deb. 5s | 102¾ | 102¾ | 102¾ | — ⅛ |
| Houston Oil 5½s | 102½ | 101¾ | 101¾ | — ¾ |
| Pan Amer. Pet. of Calif. 6s | 46 | 40⅞ | 45½ | +4 |
| do 6s ctfs | 46½ | 41 | 46 | +2 |
| Pure Oil 4¼s '50 w.w. | 116½ | 113¾ | 115½ | + ⅝ |
| do 4¼s '50 x.w. | 105¼ | 104¾ | 104¾ | — ¼ |
| Richfield Oil of Calif. 6s | 52⅞ | 45½ | 52¾ | +6¾ |
| do 6s ctfs | 52⅞ | 45 | 52½ | +6½ |
| Shell Union Oil 3½s '51 | 100⅞ | 100½ | 100⅞ | + ⅛ |
| Skelly Oil 4s '51 | 102½ | 102 | 102¼ | — ⅝ |
| Socony-Vacuum 3⅛s '50 | 106½ | 105¾ | 106¼ | + ¼ |
| S. O. N. J. 3s '61 | 100¾ | 100¼ | 100½ | + ¼ |
| Union Oil of Calif. 6s A | 121½ | 121½ | 121½ | 0 |
| do 4s '47 | 116⅜ | 103 | 106½ | —9½ |
| Warner-Quinlan 6s '39 | 55 | 43½ | 53 | +7⅝ |

# PITTSBURGH STOCK EXCHANGE

**Transactions Week Ended Nov. 27, 1936 (5 days)**

| | Sales | High | Low | Last | Change Over Week |
|---|---|---|---|---|---|
| Ark. Nat. Gas pfd | 320 | 9½ | 9½ | 9½ | — ¼ |
| †Cities Serv. | 118 | 3½ | 3⅜ | 3½ | 0 |
| Col. Gas & Elec. | 250 | 18⅛ | 17¾ | 18⅜ | + ⅛ |
| †Col. Oil & Gaso. | 508 | 7⅜ | 6⅛ | 7 | + ⅞ |
| Devonian Oil | 700 | 19 | 19 | 19 | 0 |
| †Gulf Oil of Pa. | 20 | 106¾ | 106¾ | 106¾ | —10¼ |
| XD Lone Star Gas | 810 | 12⅛ | 11¾ | 11⅞ | — ½ |
| Mountain Fuel Supply | 9,202 | 6⅞ | 5¾ | 6⅞ | + ⅞ |
| Pgh Oil & Gas | 50 | 1⅛ | 1⅛ | 1⅛ | + 1/16 |
| XD Plymouth Oil | 10 | 18⅜ | 18⅜ | 18⅜ | — ⅛ |
| Shamrock Oil & Gas | 3,330 | 6¾ | 5⅞ | 6 | — ⅜ |
| †Stand. Oil of N. J. | 308 | 66¾ | 65 | 66⅛ | + ½ |

† Unlisted. XD Ex dividend.

# OIL DIVIDENDS

**Dividends Waiting Payment**

| Company | Amount | | Payable |
|---|---|---|---|
| Atlantic Refg. q | 25c | Nov. 20 | Dec. 15 |
| do Sp. | 25c | Nov. 20 | Dec. 15 |
| Buckeye Pipe Line Co. | **$1.00 | Nov. 20 | Dec. 15 |
| Continental Oil Co. | 25c | Nov. 30 | Dec. 15 |
| Gulf Oil Corp. Stk | 100% | Dec. 10 | Dec. 21 |
| Humble Oil & Ref. Co. q | 25c | Nov. 25 | Dec. 26 |
| do extra | 25c | Nov. 25 | Dec. 26 |
| Indiana Pipe Line | 20c | Dec. 4 | Dec. 17 |
| McColl Frontenac Oil q. | 20c | Nov. 14 | Dec. 15 |
| Mission Corp. Initial | 45c | Dec. 2 | Dec. 18 |
| Northern Pipe Line | 35c | Dec. 2 | Dec. 16 |
| Ohio Oil | 35c | Nov. 14 | Dec. 15 |
| do pfd. q | $1.50 | Nov. 14 | Dec. 15 |
| Pacific Western Oil | 65c | Dec. 7 | Dec. 18 |
| Pan American Pet res. | * 60c | Dec. 7 | Dec. 21 |
| Pure Oil Co. 5½% pfd. q | $1.25 | Dec. 10 | Jan. 1 |
| do 6% pfd. q | $1.50 | Dec. 10 | Jan. 1 |
| do 8% pfd. q | $2.00 | Dec. 10 | Jan. 1 |
| Seaboard Oil q | 25c | Dec. 1 | Dec. 15 |
| Shell Union resumed | 25c | Dec. 4 | Dec. 15 |
| do pfd | $26.125 | Dec. 4 | Dec. 15 |
| Skelly Oil 6% pfd. ac | $25.50 | Dec. 1 | Dec. 21 |
| do 6% pfd. q | $1.50 | Jan. 5 | Feb. 1 |
| Sun Oil Co. stock | 6% | Nov 25 | Dec. 15 |
| do q | 25c | Nov. 25 | Dec. 15 |
| Texas Corp. extra | 25c | Dec. 1 | Dec. 21 |
| Texas Corp. q | 25c | Dec. 1 | Jan. 1 |
| Tide Water Assoc. pfd. q | $1.50 | Dec. 4 | Jan. 2 |

**Paid 75c quarterly previously. b Unclassified.
*Payable in 7-yr. 3½% notes.

# NEW YORK CURB BONDS

**Week Ending Nov. 28**

| | High | Low | Last | Change |
|---|---|---|---|---|
| Cities Serv. 5s '66 | 75 | 73½ | 75 | +1¾ |
| do 5s '50 | 75¾ | 73½ | 75¼ | + ¼ |
| do G. 5½s '42 | 103 | 102½ | 102½ | 0 |
| Empire O & R 5½s '42 | 90 | 89 | 90 | 0 |
| Valvoline Oil 7s '37 | 99 | 99 | 99 | —1 |

ADVERTISING PAGES REMOVED

# CONSERVATION

## Long Oil's Battle-Cry in the Southwest

*By* LAWRENCE E. SMITH
N. P. N. Staff Writer

OIL conservation has much wider meaning for all oil men than the efforts of the individual oil producing states to regulate production of crude. It affects the price of crude and thus is of great significance right down into the marketing branch of the industry. It is a live issue today and much will be heard concerning it in coming months, in the states and nationally.

That marketers particularly may have an opportunity to familiarize themselves with the development of the conservation movement, National Petroleum News will publish a few articles showing the history of conservation in the principal producing states. The accompanying first article is on oil conservation in Texas.

*Tulsa News Bureau*

THE oil and gas conservation policy of the state of Texas and the statutes, rules and regulations underlying that policy have been forged and heat-treated. Years were required for the process.

As in Oklahoma, a "hot" oil bath was a part of the metallurgy. This probably was helpful, for it did concentrate the thought of the metallurgists upon their problem. There were delays here and there, as amateur blacksmiths took a hand.

There were hundreds of artisans of varying degrees of skill who worked on the job. The courts were the anvils on which the conservation instrument was forged slowly and with great labor.

From the time the East Texas field was discovered, in late 1930, to date, 2088 suits have been filed attacking statutes, rules, regulations and orders pertaining to oil and gas production. Courts of all kinds either had or claimed jurisdiction. It was almost a daily affair, at one point or another in the state, for about five years, for a suit to be in process of trial. Some litigants took the route through the state courts; the major landmarks of interpretation of the laws and the cuffing of the ears of administrative officers were provided by the federal courts.

Publicly, the impression seems to be that something called proration is being practiced in Texas and its neighboring oil and gas producing states. That this is a wicked device, operating to the great detriment and injury of the consuming public, is the theme of certain professional protectors of the consumer, now resident in Washington. In the same city are other guardians of the public weal who make speeches from time to time, crying out in loud voices against the alleged great waste of oil and gas.

### BASED ON RESEARCH

The two positions, of course, are incompatible. Proration, born of necessity, has become the vehicle through which conservation is being most rapidly promoted. It is, perhaps, time to invent a new name for the regulation of oil and gas withdrawals, for proration connotes a division, on some basis or other, of the markets. Actually it is more than that. The engineering research conducted for many years and at great expense by the oil companies is rapidly assuming dominance. Both schools of Washington thought—the consumer protectors and the deplorers of waste—are woefully behind the times. The first named are visionaries, charging fictitious windmills; the latter rest their case on the state of facts which prevailed years ago.

The oil industry and with it the state regulatory bodies have progressed rapidly and the business of conservation is being attended to, not perfectly, but in far better fashion than would be admitted by the gentry who would visit a "planned economy" upon the intricate business of finding, producing, transporting, refining and marketing petroleum.

### TRUE CONSERVATION POLICY

Speaking before the World Power Conference held in Washington last month, Robert E. Hardwicke, Fort Worth attorney and recognized authority on production control, said:

"There are many people who believe that production control, especially by limiting production to the reasonable market demand (true current consumptive requirements), was nothing but a device to bolster prices. There are others who say that the general conditions in 1929 and 1930 simply furnished the opportunity to bring about production control and more scientific methods of production which would not have been tolerated so readily under different economic conditions.

"It is wholly immaterial what are the facts. It may be true that production control measures were instigated with the price factor dominant, but it is true beyond doubt that the industry soon learned that, from an engineering and production standpoint, and solely for the purpose of increasing the ultimate recovery, strict production control was highly desirable. . . . . ."

Development of the Texas policy to its present status, as was previously said, was one of trial and error, reverses and successes, with the reverses predominant for several years. It is a history that would fill volumes with all its details. For there was not general agreement among oil operators as to the wisdom, or even the necessity, of production control. The most some of them would concede was that physical waste should be prevented and they used that term in the narrowest sense.

It was early apparent to those oil men who sought production control that voluntary efforts would not prevail and it was in 1928 that the state was besought to act as umpire and policeman. The first order prorating a field was issued in that year and applied to the Winkler field of West Texas. Its enforcement was left largely to the oil men—one of the many attempts at voluntary action. A minority prevented any effective carrying out of the order.

### FIRST STATE ORDERS FAIL

The first state wide order was issued in August, 1930. The industry itself applied the driving force. The Texas Railroad Commission, responding to petitions from operators calling attention to present and threatened waste, held a hearing which lasted from July 30 to Aug. 9. On Aug. 14 it issued its order but provided that it should be effective only after another hearing to discuss the specific terms of the order. That hearing was held on Aug. 25 and on the 26th the order was put into effect for a 90-day period.

Among petitions filed with the commission was one signed by a large group of independent producers headed by Robert R. Penn, suggesting production quotas by districts. The Mid-Continent Oil & Gas Association, the Independent Petrole-

ADVERTISING PAGES REMOVED

Col. Ernest O. Thompson, in effect the oil and gas section of the Texas Railroad Commission and a militant champion of states' rights, rather than federal control, in oil conservation matters. In his tenure in office the control of production by the state agency has been defined by the courts and accepted by operators

um Association and numerous individuals were active, through committees and as individuals, in urging curtailment of Texas production.

At that time the railroad commission had had no intimate experience in production control. In the beginning, to go into history a little, the only recognized problems for the state regulatory agencies were fire hazards and protection of water sands from pollution by oil and vice versa. The legislature of Texas in 1899 passed a law providing for the proper casing of wells and the proper plugging of abandoned wells. It declared in this statute that "from the fact that surface water in wells now abandoned is calculated to ruin the oil field in Navarro county, an emergency is created. . . . ." But enforcement of this earliest statute on oil was of the vaguest kind. It was declared to be the duty of the operator to plug a well, but if he didn't do it, the job was passed on to the luckless landowner and he would, by law, be stuck with the costs of the plugging if the operator ducked that responsibility.

In 1905 the legislature approached the subject again and attempted to tighten up on the subject of waste. It placed enforcement in the hands of district courts who were authorized, when petitioned by citizens or operators, to abate nuisances, fire hazards, etc. It provided for the appointment by the courts of superintendents to carry out the orders, but it also declared that the court might require the ones who made the complaint to provide for payment of costs, including the salaries of superintendents. Needless to say, few complaints were made under such conditions.

By constitutional amendment in 1917, the legislature was commanded to pass laws for conservation of all natural resources and the law of 1919, with few changes, was the one under which the railroad commission attempted to deal with the situation in 1930. That law forbade the production of oil "in such manner and under such conditions as to constitute waste." The expression was lifted from the Oklahoma statute of 1915. It is the very heart of all state production control today.

Under the Texas statute of 1919, the administrative work was turned over to the railroad commission, whose chief function theretofore had been just what its name implies—regulation of railroads.

### FEE IS $83 A MONTH

Parenthetically, there is a bit of the comical in the pay the three members of the commission get for their oil and gas regulatory work. Their base pay, fixed by statute, is for doing their original work but they were given an additional allowance of $83 and some cents per month for handling oil affairs. They regulate the bus lines, too, and a little more money was added when they took over that job. All told, they get $5100 per year each, but the oil part, on which they spend most of their time, is appraised by the legislature at $83 per month.

This commission, in 1919, was commanded by the legislature to "do all things necessary for the conservation of oil," and "to establish such rules and regulations as will be necessary to conserve the oil and gas resources of the state." Under this sweeping delegation of authority it tried, in 1930, to cope with a situation that had finally brought the highly individualistic oil industry to the realization that only state action would avail—that voluntary effort would not succeed in fields where diversity of interest brought into play those operators who, by reason of advantageous market situation or storage facilities, were able to produce while others could not.

Things drifted along, getting alternately better and worse, until East Texas put the state into production control in a big way. The commission had arrived at the point in its philosophy where it thought it had sound basis for exercising control. It had the legislative mandate to prohibit waste and in its first state wide order in August, 1930, it showed that it defined waste as including more than the mere running of oil down the creek. In that order it mentioned waste caused by storage above ground, waste through destruction of marginal, or stripper wells which could not compete in the market with flush wells, waste by reason of underground losses where one operator produced a greater proportion of his potential than did his neighbor, reducing gas pressure unequally and curtailing the ultimate recovery from a field.

### RECOGNIZE SCIENTIFIC PRINCIPLES

In short, the commission made an attempt in this first state wide order to recognize known engineering and geological principles which had been developed by the industry through years of study of underground conditions.

With East Texas came the test of state authority and the industry well remembers the chaotic conditions which prevailed. The commission attempted to impose the first restrictions in April, 1931, including this field in a state wide order. This order, effective May 1, set the allowable output for the East Texas field at 90,000 barrels daily but on April 22 this was changed to 130,000 barrels and again on April 29 raised to 160,000 barrels. The commission attempted to team up market demand with physical waste, acting under the statute of 1919. Very quickly the first of the 2088 lawsuits appeared. The MacMillan Petroleum Corp. went to court early in May and, after a hearing in June, a three-judge federal court granted an injunction against the commission and its agents.

A lake of oil, one of the by-products of excess production of an oil field, now eliminated with the advancement of the conservation movement. In pits such as these fuel oil from East Texas crude was stored after the more marketable gasoline had been removed. Under recent Texas laws such storage is now prohibited

The court made no pronouncement as to the statute but declared that the Texas Railroad Commission had written an order designed to fix or maintain prices and that its order had no reasonable relation to physical waste. It held, further, that the commission had exceeded its authority, had, in fact, flown in the face of a specific prohibition in the statute which declared against consideration of economic waste.

### BATTLE OF INJUNCTIONS

One injunction followed another rapidly and the commission was powerless. An attempt failed to patch up the statutes in a special session of the legislature in July, 1931. That body, faced with the federal court decision in the MacMillan case and under pressure from an organized minority of operators who opposed state control, forbade the commission to pay any attention to market demand, which was just the opposite of what was needed to control the situation. However, a new element of control was introduced in an emergency. The legislature finished its work and went home early in August. The revised statute provided for 10 days notice before hearing could be held and, assuming that there was no order at all in force, the field was as wide open as the facilities for moving oil would permit. Production was approximately 1,000,000 barrels daily and the price was around 10 cents per barrel. On Aug. 17, 1931, Gov. Sterling proclaimed martial law and around 1000 national guardsmen took over the field. The governor, by executive order, fixed the field and per well allowables.

While the federal court months later held that the governor acted without authority and this decision was affirmed by the U. S. Supreme Court, a reasonable degree of orderliness was introduced and maintained for some months.

The commission, through most of 1932, stuck to the physical waste phase in writing East Texas orders, but it sustained another major blow when the federal court in the Peoples Petroleum and allied cases held that the orders were not equitable because no difference was recognized between wells as to producing capacity. This was a heated period and on one occasion a federal judge ordered the commission to show why it should not be punished for contempt. The court felt that the decree in the Peoples Petroleum case had not been observed.

There was instituted then the method of prorating East Texas wells on basis of potential production which has prevailed since.

Late in 1932, the legislature in special session abruptly reversed its previous stand and provided authority to the commission to recognize, as one of the bases of production control, the market demand for Texas petroleum. The legislature doubtless was influenced by the decision of the U. S. Supreme Court in the Champlin case, which went up from Oklahoma. The high court held that the limiting of production to market demand was a reasonable method of preventing physical waste and that whatever effect it might have on price was purely incidental.

Court reverses have been sustained by the Texas commission numerous times, but once the statute of late 1932 was adopted, it was on firmer ground. The trouble thereafter was not in writing orders but in enforcing them. The year 1933 and a considerable part of 1934 was a troubled period. The commission had authority to demand of producers that they obtain certificates of clearance on crude oil prior to its movement from leases, but its attempt to apply the same method to movement of products from refineries met with defeat. Without the latter, the former was easy of evasion.

### U. S. AGENCY FELL DOWN

The greater part of the products of East Texas refineries moved out of the state and the federal oil administrator wasted 15 months before he began using authority given in the National Industrial Recovery Act to bar shipments of illegally produced oil from interstate commerce. There is reason now to believe that the railroad commission. under the statutes of Texas as amended in 1935, has authority to do its own policing of shipments, regardless of whether to interstate or intrastate points, but the question has not been specifically tested in court. The scene of practically all the trouble was East Texas and the joint efforts of the state and the Federal Tender Board have ended the disturbance. The federal agency functions under the Connally Act.

We arrive at the present. The foregoing recital of events only faintly indicates the struggle that went on for more than five years in Texas to establish control of production. The bitterness of feeling during that period is well remembered. The state commission was the target of much criticism. Its removal from the realm of oil was sought at different times, usually by attempts to create a separate commission. Naturally, considerable time was spent by the railroad commission in merely staying in the saddle. It was investigated two or three times. Its mind was not always on its oil and gas duties.

There are problems still. On one issue a large number of operators are in sharp division with the commission. These operators seek the inclusion of the acreage factor in production control. They contend that it is not equitable to give the same allowable production to a well on one acre, for example, as is given to a well on ten acres in the same pool and producing under identical conditions; that the small tract well will take the oil which belongs to the other. This question has been argued at great length with particular reference to the East Texas field. A declaration of the Texas Supreme Court last year supported the pro-

One of the reasons why people in Texas are more conscious of the oil industry and its problems than in some of the other oil producing states. This forest of derricks in the Pierce Junction field, in the Texas Coastal area, can be seen from the center of the business section of the city of Houston

ponents of acreage proration, but no determination of the matter has been made by the commission.

### WASTE OF GAS STOPPED

The huge waste of gas in the Texas Panhandle, used by Secretary Ickes as text in his federal control arguments, has been nearly completely stopped. One phase of the 1935 law which ended the practice of stripping gas of its gasoline content and blowing the residue into the air, is in litigation. A three-judge court held the railroad commission to be without authority to compel gas pipeline companies to buy ratably from producers. Appeal has been taken to the U. S. Supreme Court and briefs are now being prepared.

Basically, the state of Texas controls production to prevent waste. It is of interest to note the inclusiveness of the term "waste" as set out in the 1935 statute, which law was arrived at through years of tinkering and doctoring, with the courtrooms as the proving ground.

Waste, said the legislature, includes the following:

Operation of oil wells with inefficient gas/oil ratio. The railroad commission is authorized to fix a proper ratio of gas volume to be produced with each barrel of oil.

Drowning of oil and gas strata with water.

Underground waste of all kinds, whether or not defined.

Wasteful burning of a natural gas well.

Creation of fire hazards.

Physical waste caused by the improper drilling, equipping, spacing or operation of wells so as to reduce the ultimate recovery of oil or gas from any pool.

Improper use of reservoir energy, whether gas or water drive.

Improper storage, including storage in earthen pits.

Escape into open air, from a well producing both oil and gas of an amount of gas in excess of that necessary to efficient drilling or operation of a well.

Production in excess of transportation or market facilities, or reasonable market demand.

Thus, a broad charter of authority has been given to the state commission. In its execution of its duties, it is the intent, says Chairman E. O. Thompson, to pursue a policy that is responsive to conditions, as quickly as they arise. One general hearing is held each month to determine the facts on which the ensuing month's production control order is to be based, but there are numerous special hearings every month to decide matters affecting a pool or a district. Thus, if a market demand appears for oil from a particular pool exceeding that set in the state wide order, the commission holds a hearing to see whether the increase should be granted at once

Within the past two years the commission has been building a field organization of supervisors and engineers who possess qualifications of training and experience. It has 28 petroleum engineers located in the 12 districts into which the state is divided. Most of these engineers were hired, as they completed their courses in petroleum engineering, at the University of Texas and the Texas A. & M. College.

The railroad commission, for several years, has appeared in oil and gas matters to consist of Col. Ernest O. Thompson. There are three members of this commission but the other two, except for occasional dissents on the part of either C. V. Terrell or Lon A. Smith, have been willing to consider Col. Thompson the oil member of the board.

### COL. THOMPSON'S REGIME

This was natural. Oil regulation, except for the most perfunctory of supervisory work, was a new problem to the commission when things began to get hot in 1929 and 1930. The turmoil and the shouting which attended the mushroom growth of the East Texas field had the commission bogged down and when Pat Neff resigned in 1932 to enter the cool, serene atmosphere of the presidency of Baylor University, the coming of Col. Thompson was hailed with relief by the other commissioners.

He was appointed in June, 1932, to fill the vacancy left by Neff, but had to turn right around and file for election to the unexpired term. The term regularly is six years, Neff had four years to go, hence Col. Thompson is now in his fourth year. He was hugely successful in this year's primaries and, as the Republicans didn't put up anyone against him, his election in November is a formality.

He brought to the office some knowledge of oil and gas affairs. He was practicing law in Amarillo, his home for 32 years, when the oil and gas development began in the Panhandle and considerable practice in this field came to him. As two-term mayor of Amarillo he set out to reduce utility rates—and was successful—and this involved something of a study of the natural gas business. Hence, he had at the outset rather more acquaintance with oil and gas affairs than officials in like positions usually bring to those positions.

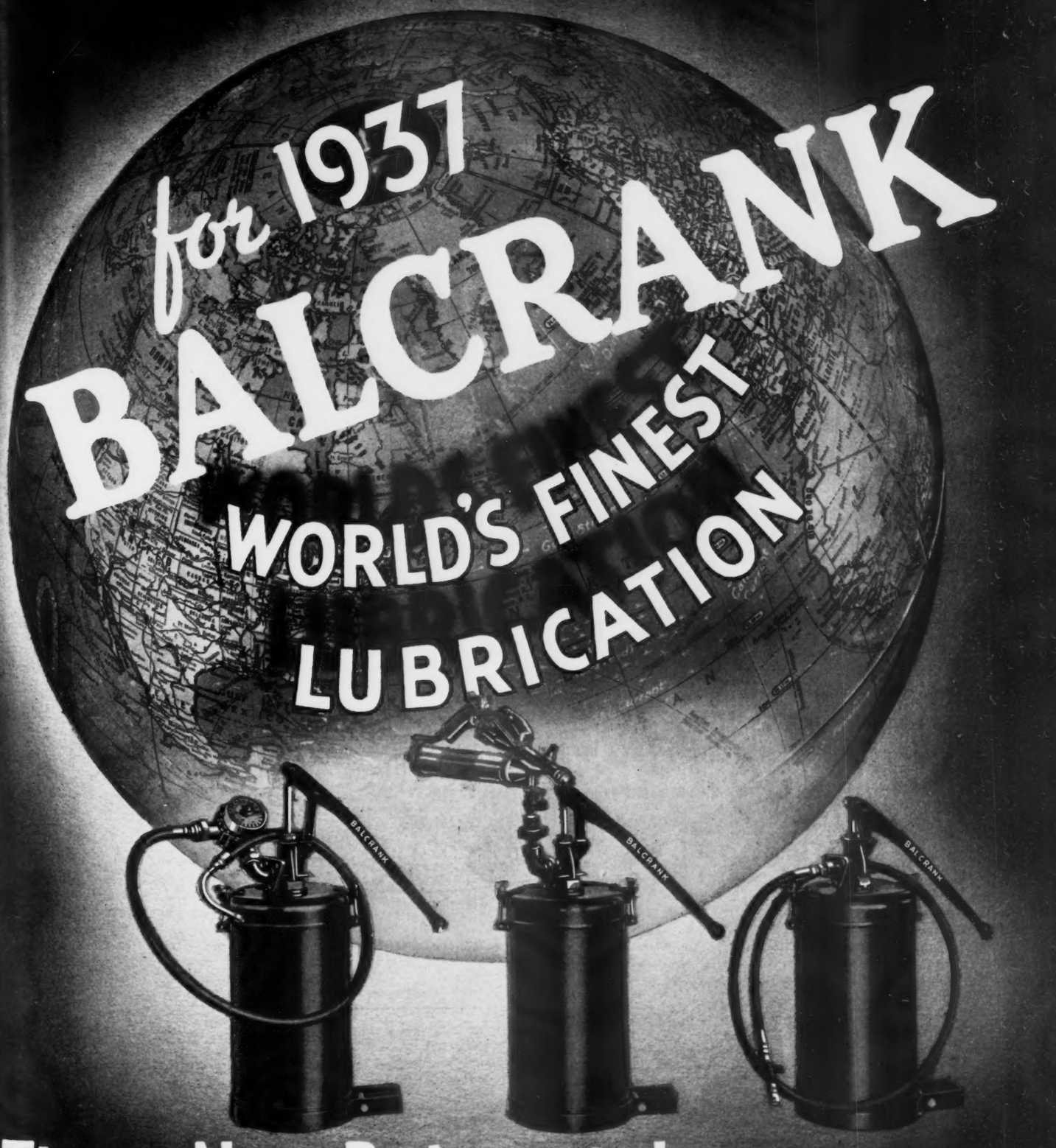
His title, "Colonel," is not synthetic but was acquired in France. He entered the army at the first officers' training camp, at Leon Springs, Texas, soon after the U. S. entered the war. He was graduated as a captain of infantry and placed in command of the machine gun battalion in the 90th division. As a major he took the battalion to France and was there made lieutenant colonel commanding all machine gun units of the 90th division. On Nov. 2, 1918, he directed the firing of the greatest machine gun barrage ever fired by any army, 1,600,000 rounds in one day.

### EARLY EXPERIENCE

Col. Thompson is 44 years old. He was born in Wise county but was reared in Amarillo. There he early put to use the energy of which he seems to have an inexhaustible fund. He sold newspapers and magazines and at the age of 11 built up a newsstand which he sold for $2000. During his high school years he operated an automobile agency, with himself at the head and sold $96,000 worth of cars after school hours and on Saturdays.

His schooling was continued at Virginia Military Institute, Eastman's Business College, Poughkeepsie, N. Y. and the University of Texas. He graduated from the law school of the last named in 1917, just in time to get into the war.

Texans imbibe with their milk in infancy the doctrine of states' rights and the principle of local government, hence the vigorous battle against federal control of oil which raged from 1932 to 1935 was one in which Col. Thompson enlisted with great heartiness. Texans were the spearhead of the opposition, with Thompson and Gov. Allred laying it on the line unceasingly. They saw in the issue more than mere principles. The federal control sought was based primarily on the theory that constitutionally anything that affected or tended to affect interstate commerce was subject to federal regulation. Because a state may not burden, through taxation or otherwise, interstate commerce, Texas officials saw an end to the oil taxes which are so vital a part of the state's revenues.

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# Thinking About A Trailer Camp?

## Here Are Some Ideas on Layout, What to Sell, and So on, From Four Years' Experience of a Confirmed Trailerite

BY E. L. BARRINGER
N. P. N. Staff Writer

*Chicago News Bureau*

SO YOU want to build a trailer camp? You've been watching these trailers pulled over the highways and your curiosity has been aroused. Then you've been reading articles in the magazines about trailers—how people travel in them for an economical two weeks vacation and for week-end trips, how they provide a permanent home for a new type of nomad. You've heard predictions that the trailer may some day be the home for a goodly portion of our population.

All this current trailer information has been thrown against the general background of the spending by tourists creating a major industry, representing millions of dollars annually spent for gasoline, oil, food, sleeping accommodations and nick nacks.

So you've been wondering how your marketing layout could be fitted into the picture to increase profits through gathering in some of the trailerite dollars. Maybe you have a highway station, or a dealer has a set up that could be fixed up for the trailer tourist to hole in for the night.

Trailer camps and certain types of service stations do have a natural affinity. In fact, highway stations depend almost entirely on the tourist for gasoline and oil sales, and offer for sale other merchandise as an inducement for tourists to stop. The trailerite is a gasoline and oil prospect, but his wants differ from those of the tourist eating in restaurants and sleeping in hotels, cabin camps, and tourist homes.

What the trailer tourist wants to buy in the line of merchandise and accommodations are prime considerations for the jobber establishing a successful trailer camp. So the experience of Paul Beshers, El Paso, Ill., canning plant operator and farm expert, gained in four summers of trailer travel may be helpful.

Mr. Beshers suggests that, first of all, the jobber establishing such a camp, or offering advice to a dealer, obtain some first hand experience. A trailer can be rented, so the prospective camp operator for two weeks or more can forget his other business and just travel within a radius of several hundred miles of his home town, living the life of a typical trailerite and inspecting camps from a customer's viewpoint.

Much will be learned later on from dealing with these modern gypsies of the road but many early mistakes may be avoided through some first hand knowledge of the business. In view of the many persons in cabin camps and service stations waiting on tourists, who seldom go beyond their own county line, the advice seems sound.

As for the location of a trailer camp, Mr. Beshers suggests a place near a city, or at the intersection of heavily traveled state or federal highways. By near a city he means from the suburban area back 30 or 40 miles. Preferably, the camp should be on the right hand side of the highway so the trailerite does not have to cross traffic, although a desirable camp on the left hand side will be patronized over a poorly equipped camp on the convenient right hand side.

Trailers are somewhat difficult to handle in traffic and parking space in town is not always convenient. So the trailerite looks for a place to hole in outside of congested areas. Although he can hardly barge into town and park in front

FIVE years ago a National Petroleum News man stopped off in El Paso, Ill., at a canning factory. In a rear room was Paul Beshers, owner of the factory and farm expert, busily working on his trailer.

In the four years since that business call Mr. and Mrs. Beshers have traveled widely in their trailer. They now are talking about building another trailer this winter.

In his trailer travels Mr. Beshers has found many service stations wanting in suitable driveways and only a few camps that measure up to an acceptable standard for this ever increasing type of tourist. From his own experience, and from talking with fellow trailerites, comes much information about trailer camps of value to the jobber who may be planning or thinking a trailer camp for himself or his dealers.

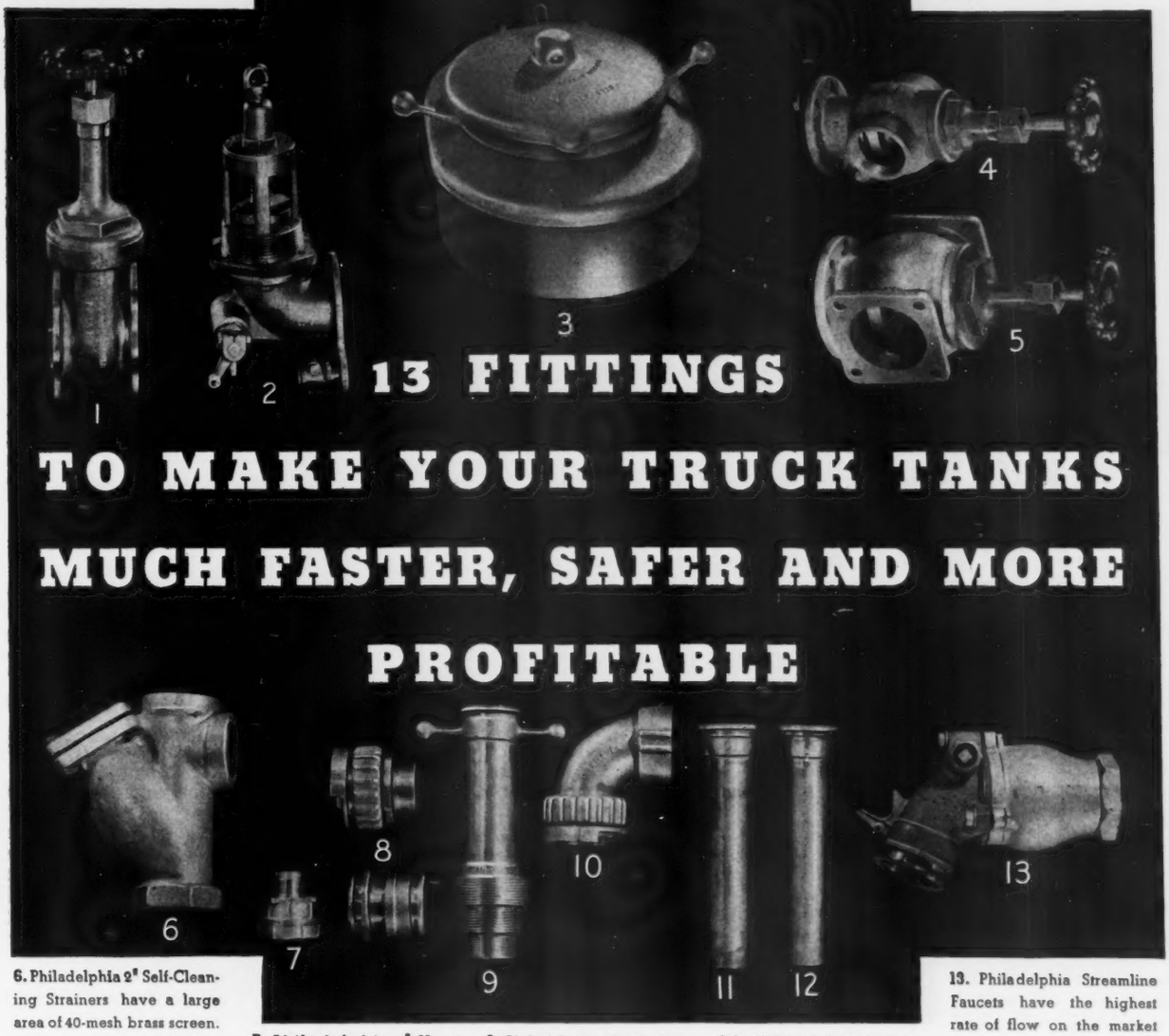
**1.** Philadelphia Gate Valves take up very little space in the line. They are double-wedge type, and are bronze throughout except for a malleable iron handle. Seats especially ground for gasoline.

**2.** Philadelphia Emergency Valves are sure, simple in action, with liberal areas, and very strongly built. The mechanism at the base is optional, for bottom control operated from can box.

**3.** Philadelphia 12" x 16" Manholes have quick-opening fill-covers, 6½", 8" or 10" in diameter, including the automatic vent shown below. When closed, they are absolutely tight. Malleable iron with bronze trimmings.

**4.** Philadelphia Combination Cross and Check Valves allow manifolding, and prevent contents of one tank from draining into another. Required by law in some states. The check feature is quickly removable.

**5.** Philadelphia Cross Valves for manifolding compartment tanks. Ideal for use with gravity meters, because their liberal areas and high efficiency mean more gallons per minute—less unloading time.

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**6.** Philadelphia 2" Self-Cleaning Strainers have a large area of 40-mesh brass screen. Sediment can be flushed out by unscrewing a plug.

**7.** Philadelphia 1" Vent Valves for manhole covers are the safest vents on the market. They permit air to enter, allow vapor to escape, have a relief opening in case of fire, yet hold contents in case of upset.

**8.** Philadelphia Quick Connectors (adapter also shown) save time in hooking up faucets, nozzles, and hose. Fittings can be attached gas-tight in 30 seconds without using a wrench.

**9, 11, 12.** Philadelphia Unloading Nozzles for attaching to quick-connector elbow (no. 10). This combination gives you a tight connecting nozzle which greatly increases the flow by increasing the head, and two different-sized slip-type nozzles.

**13.** Philadelphia Streamline Faucets have the highest rate of flow on the market at any head. Sturdy and tough, they positively will not leak and are built for very close spacing.

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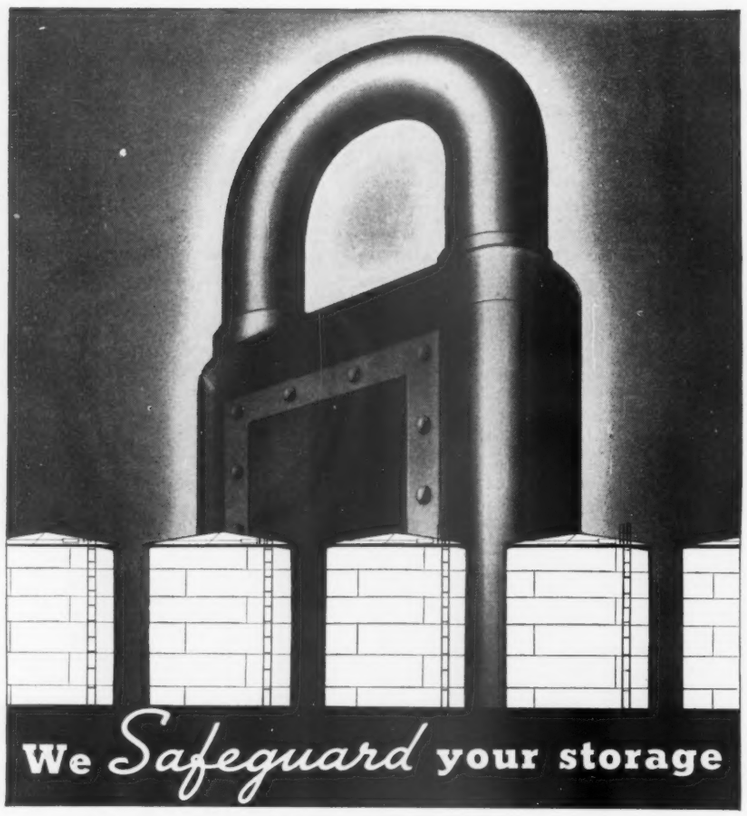


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of the postoffice before looking for a stopping place this disadvantage is offset by flexibility of his home on wheels.

If the trailerite knows of an acceptable camp he heads for it. Otherwise, in the late afternoon possible stopping places within 50 miles of the night's destination are being scrutinized. Most of this class travel so leisurely that 50 or 100 miles more or less in a day's journey means little compared to finding a good place in which to spend the night.

After selecting a suitable camp, the trailerite is not necessarily stuck for the night out in the country with nothing to do just because he is 20 or 30 miles from a town of some size. The automobile is detached from the trailer and serves for local transportation. The party can drive into town for a movie, or some other form of entertainment, and return to the trailer for a good night's rest out in the country.

THE flexibility of the trailerite's schedule and the use of his automobile for local transportation makes the camps in small towns and country communities competitive for trailer business with those in suburban areas adjacent to larger cities. Since the trailer tourist is not pushing for those few extra miles at the end of the day's journey he is just as receptive to a good camp in the country as to a good camp near town. Apparently the trailer camp is as much a business for the country marketer as it is for the city marketer.

The cross road location was mentioned by Mr. Beshers because of the possibility of such a location attracting more business. A main north-south highway might, for example, cross a main east-west highway five miles east of a town. Instead of locating a camp on the edge of the town, in line only for east-west highway trailers, the camp might just as well be five miles east of town to catch business also from those on the north-south highway, in his opinion.

After the jobber has gained some first-hand experience in camp operations with his rented trailer, and selected his camp site, Mr. Beshers' next suggestion to him is to plan the layout of the entire camp with all its facilities. Even if the camp is to accommodate only a few trailers at first, with expansion later on he recommends the entire space be laid out so future developments will not conflict with the original ground plan.

In fact, layout with the trailer customer in mind is needed also for service stations selling only gasoline and oil to trailers, in Mr. Beshers opinion. By that he means wide and sweeping drives, so the automobile can take on gasoline without the auto-trailer unit blocking drives into the station. He well remembers one Illinois station where the back of the trailer and the front of the auto were sticking out on the highway during the gasoline delivery.

For locating the trailer in the camp Mr. Beshers recommends a graveled parking spot big enough to accommodate the trailer, with graveled or other acceptable walks from the spots to other camp facilities such as the rest room building and service station. The idea is to eliminate the possibility in bad weather of the trailerite stepping from the trailer into

a mud hole, and tracking mud into the trailer.

The gravel does not have to have much depth, just enough to keep the customers out of the mud. With some soils it might be necessary to dig out about six inches then fill in with gravel for a good foundation, in his observations.

Parking spots should be so placed in the camp that trailerites will have little difficulty in getting their vehicles in and out. If possible, the unit should be able to swing around in getting to the parking spot, headed towards the main drive out of the camp. Then, when leaving, the trailer is attached to the automobile, and the unit moves forward out of the camp.

The size and shape of the camp of course will determine the number and location of parking spots. Mr. Beshers recommends sufficient space for each spot so the automobile can be parked at the side of the trailer. Some trailerites carry a section of canvas to extend from the top of the trailer to the top of the automobile providing an outdoor living room. Also, spots should be far enough apart, at least 15 feet to give the customers some elbow room in relation to their neighbors.

For service facilities to each spot he recommends a sewer and an electrical connection. Outlets should extend above the ground only a few inches so trailers can maneuver without breaking them off.

LOCATION of the sewer and electrical outlets in relation to the spots will be difficult to determine, Mr. Beshers points out. Trailers have not been standardized yet. Some have the kitchen, and consequently the drain from the sink, in the rear. Others have the kitchen forward, or amidship. Not all trailers are wired for regular voltage electricity, and those that are may have the inlet connection almost any place.

In spite of such difficulties he recommends a main line sewer, and armored cable electric line. Then to bring the connections for each spot to the surface at the most convenient corner.

For the main line sewer he suggests a maximum of an 8-inch line, laid below the frost line, for a camp to accommodate from 15 to 50 trailers. The connection from the parking spot to the sewer should be small, a maximum of 4-inches, so that trash and rubbish cannot be shoved down the drain to clog the sewer.

After the trailer is located on the graveled spot, then the cap on the sewer can be removed, and the kitchen drain pipe on the trailer connected with a length of hose. Also, with the electric line underground, trailers wanting current could be plugged in without stringing wires above ground.

Water is another essential for trailers. Trailerites learn to exist without as plentiful a supply as they are accustomed to in a house but the tanks do have to be replenished from time to time.

Few trailers are equipped for tapping directly to a water main so Mr. Beshers suggests several hydrants around the camp grounds so their occupants can draw water into their buckets to refill supply tanks. Three or four hydrants would supply a camp accommodating 25 trailers.

Rest rooms, with baths, are another essential. In some camps rest rooms


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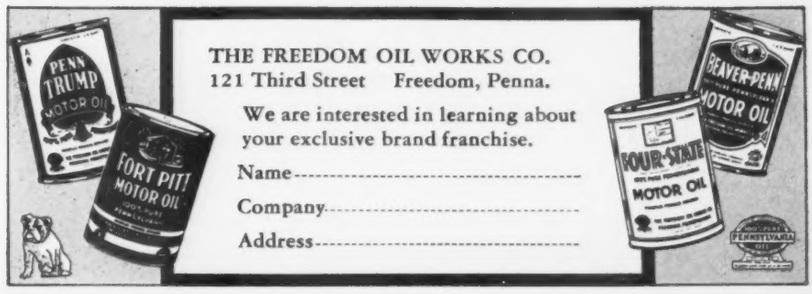


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All the comforts of home. True, but to continue to enjoy those comforts while on the road, the trailer tourist needs several items of merchandise he now has trouble in finding at his convenience. Among them are white gasoline for his stove and heater, a good grade of kerosine, ice, good drinking water, electric current, and of course table groceries.The coming trailer camps will provide them

would be part of the service station building down on the highway. While trailerites can get along with such accommodations, Mr. Beshers recommends as a better arrangement a separate building back from the station near the graveled spots. Then trailer tourists could have these facilities apart from the rest rooms in the station building used also by the casual tourist stopping just for gasoline or oil.

Small camps could hardly maintain a separate rest room and bath building, but it is a point to keep in mind in the ultimate development of an acceptable camp, Mr. Beshers brings out.

Another essential at a tourist camp accommodating trailers is garbage and waste paper disposal facilities. Space in trailers is at a premium. The supply of food carried is limited and meals are planned to avoid left overs. Hence, after each meal the trailerite housewife cleans out the food department and wants to get the garbage and waste paper out of the trailer.

Acceptable facility for this, in Mr. Beshers opinion, is a large covered garbage can. A can should be provided for every three or four trailers, and emptied regularly to prevent overflow and attracting flies.

Mention was made previously of gravel walks to various facilities around the camp. This includes walks to the rest room building, water hydrants, and garbage cans. Mud tracked into the trailer from a trip with the water bucket is just as annoying to the housewife as that tracked in from walking between the trailer and the parked automobile.

So much for the sketch of facilities back of the service station building where the trailerites park for the night or for a few days or a week. Now for some merchandise that can be sold to trailer travelers at the service station, which in Mr. Beshers opinion is essential.

Like the tailor's son who wears ragged clothing, his first item of saleable merchandise touches a weakness on the oil industry's main product — a suitable gasoline supply.

White gasoline and kerosine are essential as a fuel supply for the trailer's appliances, lights, kitchen stoves, heating stoves, and possibly mechanical refrigeration. Some trailers have kerosine appliances, others gasoline appliances, but leaded gasoline clogs burners and valves.

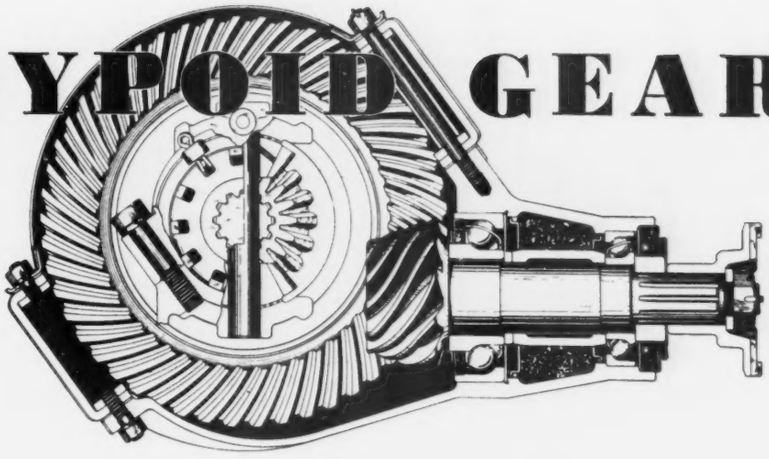
Surprisingly enough, Mr. Beshers relates there is difficulty in buying white gasoline. Some service stations do not handle white (third grade) gasoline, so trailerites wanting gasoline for appliances pass up these stations.

Also, Mr. Beshers has found that quality of white gasoline varies, and he reports that this class of customers is beginning to talk among themselves about this quality feature. So far, the third grade brand of one company is receiving considerable praise as a satisfactory appliance fuel.

Mr. Beshers' trailer has a gasoline

The Beshers trailer, home fashioned, at rest in the side yard of the family home in El Paso, Ill., after a summer's grind on the highways

# HYPOID GEARS



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# TOURIST TRAILER SPECIFICATIONS

**This data, compiled by the trade publication, Automotive Industries, lists the detailed features of 116 trailer models manufactured by 45 Makers.**

| Line Number | MAKE | MODEL | Total Price | WEIGHT Lbs. | | DIMENSIONS (In Ft. & Ins) | | | Tire Size | Type Coupling | Parking | Ice Box Capacity (Lbs.) | EQUIPMENT | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Total (Excluding Draw Bar) | On Draw Bar | Length (Excluding Draw Bar) | Width | Height | | | | | Water Tank | | | Lighting | | | | | | |
| | | | | | | | | | | | | | Capacity (Gals.) | Type Feed | Stove: (Make & Type) | Internal or External | Source of Current Battery Location | Plug Connection Exter. Current | Toilet | Bath (Type) | Brakes—Make | Wired for Radio |
| 1 | Aerocar Company | Standard Cruiser | 1950 | .... | ... | 20′ 0″ | 6′ 10″ | 8′ 3″ | 7.00/16 | Pne | ... | .. | 18 | ... | ..... | I&E | ... | .. | N | N | .... | .. |
| 2 | Aerocar Company | Custom Cruiser | 2150 | .... | ... | 20′ 0″ | 8′ 10″ | 8′ 3″ | 7.00/16 | Pne | ... | .. | 18 | ... | ..... | I&E | ... | .. | Y | Sh | .... | .. |
| 3 | Aerocar Company | Twin Cabin | 2350 | .... | ... | 20′ 0″ | 6′ 10″ | 8′ 3″ | 7.00/16 | Pne | ... | .. | 18 | ... | ..... | I&E | ... | .. | Y | Sh | .... | .. |
| 4 | Airline Trail Home | Airline Home | 475 | 700 | 30 | 13′ 0″ | 6′ 2″ | ..... | TF | B&S | PL | 25 | 10 | Op | ...-G | I&E | Cb | Y | † | .... | N | Y |
| 5 | Airline Trail Home | Folding B | 475 | 710 | ... | 13′ 0″ | 6′ 2″ | 3′ 11″ | TF | B&S | PL | 25 | 10 | Pu | Op-G | I&E | Cb | Y | † | N | N | Y |
| 6 | Airfloat Trailer | Airfloat | 695 | 1100 | 50 | 12′ 0″ | 6′ 4″ | 7′ 3″ | 6.00/16 | B&S | Tri | 35 | 15 | Pu | Col-G | I | Cb | Y | N | .... | † | Y |
| 7 | Airfloat Trailer | Airfloat | 695 | 1100 | 50 | 12′ 0″ | 6′ 4″ | 7′ 3″ | 6.00/16 | B&S | Tri | 35 | 15 | Pu | Col-G | I | Cb | Y | N | .... | † | Y |
| 8 | All American Trailer | | .... | .... | .. | ..... | ..... | ..... | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Op | Y | † | † | Vel | Y |
| 9 | Anderson Coach | Cruiser | 610 | 1650 | 250 | 16′ 6″ | 6′ 6″ | 7′ 4″ | 6.00/16 | B&S | JC | 75 | 16 | Pu | Col-G | I&E | Cb | .. | N | .... | Ben | Y |
| 10 | Anderson Coach | Club-Coach | 725 | 2050 | 300 | 19′ 6″ | 6′ 6″ | 7′ 5″ | 6.50/16 | B&S | JC | 75 | 16 | Pu | Col-G | I&E | Cb | Y | Y | Op | Ben | Y |
| 11 | Anderson Coach | Club-Coach | 1045 | 2350 | 350 | 22′ 0″ | 6′ 6″ | 7′ 4″ | 7.50/16 | B&S | JC | 75 | 30 | Pr | Col-G | I&E | CT | Y | Y | Y | Ben | Y |
| 12 | Auto-Cruiser Mfg | Auto-Cruiser-23 | 1650 | 2320 | 375 | 23′ 0″ | 6′ 6″ | 7′ 10″ | 6.50/16 | B&S | JC | 75 | 30 | ... | Col-G | I&E | Cb | Y | Y | Y | B-K | Y |
| 13 | Auto-Cruiser Mfg | Auto-Cruiser-25 | 2400 | 2490 | 400 | 25′ 0″ | 6′ 6″ | 7′ 10″ | 6.50/16 | B&S | JC | 75 | 30 | ... | Col-G | I&E | Cb | Y | Y | Y | B-K | Y |
| 14 | Auto-Cruiser Mfg | Auto-Cruiser-21 | 1135 | 1960 | 325 | 21′ 0″ | 6′ 3″ | 7′ 10″ | 6.00/16 | B&S | JC | 50 | 30 | Gr | Col-G | I&E | Cb | Y | Y | Y | B-K | Y |
| 15 | Auto-Cruiser Mfg | Auto-Cruiser-19 | 895 | 1750 | 300 | 19′ 0″ | 6′ 6″ | 7′ 10″ | 6.00/16 | B&S | JC | 50 | 20 | Gr | Col-G | I&E | Cb | Y | Y | .... | .... | Y |
| 16 | Auto-Cruiser Mfg | Auto-Cruiser-17 | 645 | 1450 | 275 | 17′ 0″ | 6′ 6″ | 7′ 10″ | 6.00/16 | B&S | JC | 50 | 20 | Gr | Col-G | I&E | Cb | Y | N | .... | .... | Y |
| 17 | Batavia Body Co | Tour-a-way | 650 | 2115 | 335 | 16′ 6″ | 6′ 8″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 20 | Pu | Col-G | I&E | Cb | Y | N | .... | .... | Y |
| 18 | Bender Body Co | | .... | .... | ... | 14′ 0″ | 6′ 3″ | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | Yes | .. |
| 19 | Bender Body Co | | .... | .... | ... | 16′ 4″ | 6′ 3″ | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | Yes | .. |
| 20 | Bender Body Co | | .... | .... | ... | 18′ 6″ | 6′ 3″ | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | Yes | .. |
| 21 | Cantrell, J. T | Cantrell Cottage | 835 | 1725 | 275 | 17′ 0″ | 6′ 9″ | 7′ 8″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | † | Y | Y | † | War | Y |
| 22 | Cantrell, J. T | Cruiser | 445 | 1500 | 175 | 14′ 0″ | 6′ 9″ | 7′ 8″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | .... | War | Y |
| 23 | Caravan Trailer | Premier | 3500 | 1900 | 240 | 17′ 0″ | 6′ 8″ | 6′ 3″ | TF | B&S | PL | 50 | 30 | Pu | Op-Op | I | ... | Y | N | .... | War | Y |
| 24 | Caravan Trailer | Tourist | 1000 | 1400 | 200 | 16′ 0″ | 6′ 6″ | 6′ 3″ | 6.00/16 | B&S | PL | 40 | 30 | Pr | Col-Op | I | Cb | Y | N | .... | War | Y |
| 25 | Caravan Trailer | Tax Dodger | 425 | 900 | 100 | 11′ 0″ | 6′ 5″ | 6′ 2″ | 5.50/16 | B&S | PL | 25 | 30 | Pr | Col-G | I | Cb | Y | N | .... | † | Y |
| 26 | Clarkspeed Trailer | "C" | 695 | 1700 | 250 | 18′ 2″ | 6′ 9″ | 6′ 5″ | 6.00/16 | B&S | JC | 50 | 16 | Pu | Kam-G | I&E | Cb | Y | N | .... | † | Y |
| 27 | Covered Wagon | Custom Coach | .... | .... | .... | 20′ 6″ | 6′ 6″ | 7′ 8″ | 6.25/16 | B&S | JC | 75 | 30 | Pr | ..... | I&E | Cb | Y | Y | Sh | War | Y |
| 28 | Covered Wagon | De Luxe | .... | 1840 | 410 | 17′ 2″ | 6′ 6″ | 7′ 8″ | 6.25/16 | B&S | JC | 50 | 20 | Pr | ..... | I&E | Cb | Y | Y | Sh | † | Y |
| 29 | Covered Wagon | Standard | .... | .... | ... | 14′ 8″ | 6′ 6″ | 7′ 8″ | 5.50/16 | B&S | JC | 50 | 20 | Pr | ..... | I&E | Cb | Y | N | .... | † | Y |
| 30 | Cresmer Manufacturing | Riversider-S | 685 | 1680 | 200 | 14′ 6″ | 6′ 4″ | 6′ 4″ | 6.00/16 | B&S | CW | 50 | 35 | Pu | Col-G | I&E | Cb | Y | N | Tu | † | Y |
| 31 | Cresmer Manufacturing | Riverside-M | 785 | 1760 | 200 | 14′ 6″ | 6′ 4″ | 6′ 4″ | 6.00/16 | B&S | CW | 50 | 35 | Pu | Col-G | I&E | Cb | Y | N | Tu | † | Y |
| 32 | Curtiss Aerocar Co | 161-B | 4850 | .... | ... | 23′ 2″ | 6′ 9″ | 7′ 8¾″ | 7.50/16 | Pne | Tri | 75 | 30 | Pr | Wil-A | I&E | CT | Y | Y | Sh | Ben | Y |
| 33 | Curtiss Aerocar Co | 161-JC | 3695 | .... | ... | 22′ 0″ | 6′ 9″ | 7′ 8¾″ | 7.50/16 | Pne | Tri | 75 | 30 | Pr | Wil-A | I&E | CT | Y | Y | Sh | Ben | Y |
| 34 | Curtiss Aerocar Co | 161-E | 3890 | .... | ... | 21′ 9″ | 6′ 9″ | 7′ 8¾″ | 7.50/16 | Pne | Tri | 75 | 30 | Pr | Wil-A | I&E | CT | Y | Y | Sh | Ben | Y |
| 35 | Curtiss Aerocar Co | JC-100 | 2995 | .... | ... | 21′ 8″ | 6′ 9″ | 7′ 8¾″ | 6.50/16 | Pne | Tri | 75 | 30 | Pr | Wil-A | I&E | Cb | Y | Y | Sh | Ben | Y |
| 36 | Eckland Bros. Co | Home-Ette | 925 | 1800 | 300 | 15′ 0″ | 6′ 8″ | 6′ 2″ | 6.00/16 | B&S | CW | 65 | 20 | Gr | Col-G | I&E | CT | Y | N | No | † | Y |
| 37 | Edwards Iron Works | Home-mobile-16 | .... | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | † | .. |
| 38 | Edwards Iron Works | Home-mobile-8 | .... | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | † | .. |
| 39 | Edwards Iron Works | Home-mobile-20 | .... | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | † | .. |
| 40 | Elcar Coach Co | De Luxe | 575 | 1800 | 200 | 18′ 0″ | 6′ 6″ | 7′ 8″ | 6.00/16 | B&S | JC | 50 | 12 | Gr | Col-G | I&E | Cb | Y | Y | Sh | † | Y |
| 41 | Elcar Coach Co | Standard | 448 | 1500 | 175 | 16′ 0″ | 6′ 6″ | 7′ 8″ | 6.00/16 | B&S | JC | 50 | 12 | Gr | Col-G | I&E | Cb | Y | N | .... | .... | Y |
| 42 | Federal Motor Truck | De Luxe | †† | 2300 | 300 | 18′ 3″ | 6′ 9″ | 6′ 8″ | 6.50/16 | B&S | JC | 50 | 30 | Pu | Mid-G | I&E | Cb | Y | N | .... | Ben | Y |
| 43 | General Trailers Corp | | 890 | .... | ... | 19′ 3″ | ..... | 7′ 8″ | 6.00/16 | B&S | JC | 75 | 20 | Pu | ...-G | I&E | ... | .. | N | .... | .... | .. |
| 44 | Gilkison, E. P., Sons | Luxury Cruiser | 1095 | 2750 | 325 | 17′ 10″ | 6′ 7″ | 6′ 2″ | 7.00/16 | B&S | JC | 50 | 28 | Gr | Pre-G | I&E | Cb | Y | Y | Sh | † | Y |
| 45 | Gilkison, E. P., Sons | Sportland Cruiser | 965 | 2450 | 310 | 17′ 10″ | 6′ 7″ | 6′ 2″ | 7.00/16 | B&S | JC | 50 | 28 | Gr | Col-G | I&E | Cb | Y | Y | Sh | † | Y |
| 46 | Gilkison, E. P., Sons | Champion | 820 | 2200 | 280 | 17′ 0″ | 6′ 7″ | 6′ 2″ | 6.50/16 | B&S | JC | 50 | 25 | Gr | Col-G | I&E | Cb | Y | .. | .... | † | Y |
| 47 | Gilkison, E. P., Sons | Skipper | 630 | 1865 | 280 | 17′ 0″ | 6′ 7″ | 6′ 2″ | 6.00/16 | B&S | JC | 50 | 25 | Gr | Col-G | I&E | Cb | Y | N | .... | † | Y |
| 48 | Gypsy Caravan Co | Standard | 695 | 1500 | 300 | 13′ 0″ | 6′ 4″ | 7′ 9″ | 6.00/16 | B&S | JC | 50 | 20 | Pu | Col-G | I&E | Cb | Y | Y | .... | Ben | Y |
| 49 | Gypsy Caravan Co | De Luxe | 895 | 1750 | 300 | 15′ 0″ | 6′ 4″ | 7′ 9″ | 6.00/16 | B&S | JP | 50 | 20 | Pu | Col-G | I&E | Cb | Y | Y | .... | Ben | Y |
| 50 | Hayes Body Corp | Clipper | 395 | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | .... | .. |
| 51 | Hayes Body Corp | Crusader | 785 | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | .... | .. |
| 52 | Hayes Body Corp | Crusader De Luxe | .... | .... | ... | ..... | ..... | ..... | ..... | .... | ... | .. | .. | ... | ..... | .... | ... | .. | .. | .... | .... | .. |
| 53 | Hollywood Steel Trailer | Standard Steel | 1075 | 1485 | 240 | 16′ 0″ | 6′ 6″ | 7′ 4″ | 6.00/16 | B&S | JC | 50 | 22 | Pu | Col-Op | I&E | Tb | Y | .. | Tu | Ben | Y |
| 54 | Hollywood Steel Trailer | Standard Steel | 885 | 1400 | 225 | 14′ 0″ | 6′ 6″ | 7′ 4″ | 6.00/16 | B&S | JC | 50 | 22 | Pu | Col-Op | I&E | Tb | Y | .. | .... | Ben | Y |
| 55 | Hollywood Steel Trailer | Standard Steel | 1395 | 1900 | 300 | 18′ 0″ | 6′ 6″ | 7′ 4″ | 6.00/16 | B&S | JC | 50 | 22 | Pu | Col-Op | I&E | Tb | Y | .. | Tu | Ben | Y |
| 56 | Kabin Koach Co | Custom-90 | 1390 | 2100 | 325 | 19′ 0″ | 6′ 8″ | 7′ 6″ | 7.00/16 | B&S | JC | 75 | 30 | Pr | PT-G | I&E | Cb | Y | Y | Sh | Ben | Y |
| 57 | Kabin Koach Co | De Luxe-75 | 861 | .... | ... | 17′ 0″ | 6′ 8″ | 7′ 6″ | 6.25/16 | B&S | JC | 50 | 18 | Pu | Col-G | I&E | Cb | Y | † | † | † | Y |
| 58 | Kabin Koach Co | Standard 57A | 655 | 1800 | 325 | 16′ 0″ | 8′ 8″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 6 | Gr | Col-G | I&E | Cb | Y | N | N | † | Y |
| 59 | Kayecraft Eng. Corp | Kampster-Std | 225 | 500 | 60 | 8′ 0″ | 4′ 0″ | 5′ 7″ | 5.00/17 | B&S | Tri | 75 | 12 | Gr | ...-G | I | Cb | Y | N | .... | .... | N |
| 60 | Kayecraft Eng. Corp | Kampster-De Luxe | 325 | 750 | 70 | 10′ 0″ | 4′ 0″ | 5′ 7″ | 6.00/16 | B&S | Tri | 45 | 10 | ... | ...-G | I | Cb | Y | N | .... | .... | N |
| 61 | Kozy-Coach Co | Klipper | 845 | 1780 | 300 | 17′ 0″ | 6′ 6″ | 6′ 1″ | 6.00/16 | B&S | JC | 50 | 17 | Pu | Col-G | I&E | Cb | Y | N | .... | † | Y |
| 62 | Kozy-Coach Co | De Luxe | 765 | 1795 | 325 | 18′ 0″ | 6′ 6″ | 6′ 1″ | 6.00/16 | B&S | JC | 50 | 17 | Pu | Col-G | I&E | Cb | Y | N | .... | † | Y |
| 63 | Kozy-Coach Co | Standard | 628 | 1600 | 300 | 18′ 0″ | 6′ 6″ | 6′ 1″ | 6.00/16 | B&S | JC | 50 | 13 | Gr | Col-G | I&E | Cb | .. | .. | .... | † | Y |
| 64 | McLaren Trailer Co | Cruiser-16 | 785 | 1640 | 265 | 16′ 0″ | 6′ 5″ | 7′ 9″ | 6.50/16 | B&S | JC | 75 | 20 | Pu | Op-Op | I&E | CT | Y | Y | Sh | Ben | Y |
| 65 | McLaren Trailer Co | Custom Cruiser | .... | .... | .... | 20′ 0″ | 6′ 8″ | 7′ 9″ | 6.00/16 | B&S | JC | 75 | 20 | Pu | Ro-G | I&E | Tb | Y | Y | Sh | Ben | Y |
| 66 | McLaren Trailer Co | Cruiser | 685 | 1380 | 185 | 14′ 0″ | 6′ 5″ | 7′ 9″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | .. | Sh | † | Y |
| 67 | McLaren Trailer Co | Cruiser-12 | 495 | 1180 | 140 | 12′ 0″ | 6′ 5″ | 7′ 9″ | 5.50/17 | B&S | JC | 25 | 15 | Pu | Col-G | I&E | Cb | Y | N | † | No | Y |
| 68 | Miller Trailers | Hi-Way Special | 695 | 1480 | 240 | 18′ 8″ | 6′ 4″ | 7′ 3″ | 6.00/16 | B&S | PL | 40 | 10 | Gr | Pre-G | I | CT | Y | N | N | Ben | Y |
| 69 | Miller Trailers | By-Way | 395 | 1100 | 230 | 14′ 0″ | 6′ 4″ | 7′ 3″ | 6.00/16 | B&S | JC | 40 | .. | ... | Pre-G | I&E | CT | Y | N | N | No | Y |
| 70 | Miller Trailers | Hi-Way | 600 | 1300 | 230 | 21′ 0″ | 6′ 4″ | 7′ 3″ | 6.00/16 | B&S | PL | 40 | .. | Gr | Pre-G | I&E | Cb | Y | N | N | † | Y |
| 71 | Palace Travel Coach | Standard | 548 | 1700 | 300 | 16′ 0″ | 6′ 6″ | 7′ 9″ | 6.00/16 | B&S | JC | 50 | 10 | Gr | Col-G | I&E | Cb | Y | N | Tu | † | Y |
| 72 | Palace Travel Coach | Master | 785 | 2000 | 400 | 18′ 0″ | 6′ 6″ | 7′ 9″ | 6.00/16 | B&S | JC | 50 | 15 | Gr | Col-G | I&E | Cb | Y | Y | N | † | Y |
| 73 | Palace Travel Coach | Master De Luxe | 995 | 2100 | 400 | 18′ 0″ | 6′ 6″ | 7′ 9″ | 6.00/16 | B&S | JC | 50 | 15 | Gr | Col-G | I&E | Cb | Y | Y | N | War | Y |
| 74 | Pierce-Arrow | A | 1145 | ... | 325 | 19′ 0″ | 6′ 8″ | 7′ 9″ | 6.50/16 | B&S | SJ | 40 | 24 | Pu | ...-G | .... | Cb | Y | Y | Y | † | .. |
| 75 | Pierce-Arrow | B | 845 | .... | 268 | 16′ 6″ | 6′ 8″ | 7′ 9″ | 6.00/16 | B&S | SJ | 40 | 24 | Pu | ...-G | .... | Cb | Y | Y | Y | † | .. |
| 76 | Pierce-Arrow | C | 595 | .... | 238 | 13′ 7″ | 6′ 8″ | 7′ 9″ | 6.00/16 | B&S | SJ | 40 | 24 | Pu | † | .... | Cb | Y | N | N | † | .. |

## TOURIST TRAILER SPECIFICATIONS—*Continued*

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | Raymond Products Co. | Travelo-De Luxe | 745 | 1950 | 300 | 16′ 6″ | 6′ 11″ | 7′ 7″ | 6.00/16 | B&S | JC | 50 | 22 | Pu | Col-G | I&E | Cb | Y | Y | N | † | Y |
| 78 | Raymond Products Co. | Travelo-Standard | 485 | 1550 | 300 | 14′ 6″ | 6′ 11″ | 7′ 7″ | 6.00/16 | B&S | JP | 50 | 22 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 79 | Roycraft Coach Co. | A-Junior | 450 | 1585 | 285 | 14′ 0″ | 6′ 8″ | 6′ 2″ | 6.00/16 | B&S | JC | 50 | 12½ | Pu | Col-G | I | Cb | Y | N | .... | N | N |
| 80 | Roycraft Coach Co. | E-Craftsman | 620 | 1410 | 300 | 16′ 0″ | 6′ 8″ | 6′ 2″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I | Cb | Y | † | Y | .... | Y |
| 81 | Roycraft Coach Co. | 19F-Craftsman | 995 | 1700 | .... | 19′ 0″ | 6′ 8″ | 6′ 2″ | 6.00/16 | B&S | JC | 50 | 18 | Pu | Col-G | I&E | Cb | Y | Y | N | N | Y |
| 82 | Roycraft Coach Co. | Master Cruiser | 2100 | 2200 | 375 | 20′ 0″ | 6′ 8″ | 6′ 2″ | 6.50/16 | B&S | JC | 50 | 20 | Pu | Col-G | I&E | Tb | Y | Y | † | Ben | Y |
| 83 | Schelm Brothers | Super | 1500 | 2420 | 380 | 18′ 6″ | 7′ 0″ | 7′ 7″ | 7.50/15 | B&S | PL | 50 | 25 | Pu | Col-G | .... | Tb | Y | Y | Sh | Ben | Y |
| 84 | Schelm Brothers | De Luxe | 1225 | 1990 | 310 | 17′ 0″ | 7′ 0″ | 7′ 7″ | 7.50/16 | B&S | PJ | 50 | 15 | Pu | Col-G | I&E | Tb | Y | N | Tu | Ben | Y |
| 85 | Schelm Brothers | Standard | 725 | 1600 | 225 | 16′ 0″ | 7′ 0″ | 7′ 7″ | 7.00/15 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Tb | Y | N | Tu | Ben | Y |
| 86 | Schult Trailers, Inc. | De Luxe | 695 | 1700 | 225 | 17′ 0″ | 6′ 6″ | 8′ 0″ | 6.00/16 | B&S | JC | 50 | 20 | Pu | Col-G | I&E | Cb | Y | Y | N | † | Y |
| 87 | Schult Trailers, Inc. | Nomad | 442 | 1400 | 200 | 15′ 0″ | 6′ 6″ | 6′ 1″ | 6.00/16 | B&S | JC | 50 | 20 | Pu | Col-G | I&E | .... | Y | N | N | † | Y |
| 88 | Schult Trailers, Inc. | Travelease | 382 | 1400 | 200 | 14′ 0″ | 6′ 6″ | 8′ 0″ | 5.25/17 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | .... | Y |
| 89 | Schult Trailers, Inc. | Caravan | 318 | 1200 | 175 | 14′ 0″ | 6′ 6″ | 6′ 2″ | 5.25/17 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 90 | Seminole Coach Co. | .... | 570 | .... | 200 | 19′ 0″ | 6′ 6″ | ..... | 6.00/16 | B&S | JC | .. | .. | .... | † | .... | † | .. | † | .... | † | .. |
| 91 | Silver Dome, Inc. | Hyway | .... | .... | .... | ..... | .... | ..... | ..... | .... | .... | .. | .. | .... | ..... | .... | .... | .. | .. | .... | .... | .. |
| 92 | Silver Dome, Inc. | Hyway, De Luxe | .... | .... | .... | ..... | .... | ..... | ..... | .... | .... | .. | .. | .... | ..... | .... | .... | .. | .. | .... | .... | .. |
| 93 | Silver Dome, Inc. | Suburban | .... | .... | .... | ..... | .... | ..... | ..... | .... | .... | .. | .. | .... | ..... | .... | .... | .. | .. | .... | .... | .. |
| 94 | Silver Dome, Inc. | Custom Club | .... | .... | .... | ..... | .... | ..... | ..... | .... | .... | .. | .. | .... | ..... | .... | .... | .. | .. | .... | .... | .. |
| 95 | Spiffy Craft Products | Homette | 435 | 2190 | 240 | 18′ 0″ | 7′ 0″ | 6′ 3″ | 6.00/16 | B&S | JC | 50 | 27 | Gr | ...-G | I&E | CT | Y | N | N | † | Y |
| 96 | Spiffy Craft Products | Honor | 395 | 1900 | 260 | 16′ 0″ | 7′ 0″ | 6′ 3″ | 6.00/16 | B&S | JC | 50 | 22 | Gr | ...-G | I | Cb | Y | N | N | N | N |
| 97 | Spiffy Craft Products | De Luxe | 1350 | 3000 | 375 | 21′ 0″ | 6′ 8″ | 6′ 4″ | 7.00/16 | B&S | JC | 50 | 35 | Gr | ...-G | I&E | Tb | Y | N | N | War | Y |
| 98 | Spiffy Craft Products | 16 | 650 | 2250 | 225 | 19′ 0″ | 6′ 8″ | 6′ 3″ | 6.00/16 | B&S | JC | 50 | 22 | Gr | ...-G | I&E | CT | Y | N | N | War | Y |
| 99 | Spiffy Craft Products | 18 | 1050 | 2800 | 300 | 21′ 0″ | 6′ 8″ | 6′ 4″ | 7.00/16 | B&S | JC | 50 | 35 | Gr | ...-G | .... | CT | Y | N | N | War | Y |
| 100 | Split Coach Motor | York Cruiser-Junior | .. | 1450 | 250 | 13′ 0 | 6′ 7″ | 7′ 4″ | 6.00/16 | B&S | PL | 50 | 15 | Pu | ...-G | I&E | CT | Y | N | .... | † | Y |
| 101 | Split Coach Motor | York Cruiser-Senior | .... | 1950 | 350 | 17′ 0″ | 6′ 7″ | 7′ 5″ | 7.00/16 | B&S | PL | 50 | 20 | Pu | ...-G | I&E | CT | Y | † | † | † | Y |
| 102 | Standard Trailer Co. | Airflow-16 | 550 | 1690 | 220 | 16′ 0″ | 6′ 6″ | 6′ 3″ | 6.00/16 | B&S | JC | 40 | 15 | Pr | Col-G | I | Cb | Y | N | N | Vac | N |
| 103 | Standard Trailer Co. | 12 | 395 | 1200 | 180 | 12′ 0″ | 6′ 6″ | 6′ 6″ | 5.25/17 | B&S | JC | 40 | 15 | Pr | Col-G | I | Cb | Y | N | N | Vac | N |
| 104 | Standard Trailer Co. | 14 | 575 | 1670 | 200 | 14′ 0″ | 6′ 6″ | 6′ 3″ | 6.00/16 | B&S | JC | 40 | 15 | Pr | Col-G | I | Cb | Y | Y | † | Vac | Y |
| 105 | Sylvan Trailers | Knight | 745 | 1400 | 200 | 15′ 0″ | 6′ 6″ | 7′ 9″ | 6.00/16 | B | JC | 50 | 20 | Pu | Kam-G | I&E | Cb | Y | Y | † | Fo | Y |
| 106 | Trotwood Trailers, Inc. | Master | 565 | 1800 | 200 | 15′ 0″ | 6′ 6″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 107 | Trotwood Trailers, Inc. | De Luxe | 845 | 2200 | 225 | 17′ 0″ | 6′ 6″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | Y | Sh | Ben | Y |
| 108 | Trotwood Trailers, Inc. | Cub | 375 | 1250 | 175 | 10′ 5″ | 6′ 6″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 109 | Trotwood Trailers, Inc. | Standard | 465 | 1450 | 190 | 13′ 0″ | 6′ 6″ | 7′ 6″ | 6.00/16 | B&S | JC | 50 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 110 | U. S. Coach Co. | Standard | 595 | 1450 | 250 | 14′ 6″ | 6′ 6″ | 7′ 6″ | 6.00/16 | B&S | JC | 75 | 10 | Pu | Col-G | I&E | Cb | Y | N | N | † | .. |
| 111 | U. S. Coach Co. | De Luxe | 785 | 1675 | 275 | 17′ 0″ | 7′ 0″ | 7′ 6″ | 6.00/16 | B&S | JC | 75 | 15 | Pu | Col-G | I&E | Cb | Y | N | N | † | Y |
| 112 | U. S. Coach Co. | Imperial | 1095 | 2000 | 300 | 19′ 0″ | 7′ 0″ | 7′ 6″ | ..... | B&S | JC | 75 | 20 | Pu | Msp-G | I&E | Tb | Y | Y | † | † | Y |
| 113 | Wolverine Trailer Coach | Standard-36 | 475 | 1700 | 200 | 15′ 8″ | 6′ 6″ | 6′ 6″ | 5.50/17 | B&S | JC | 50 | 5.3 | Gr | Pre-G | I&E | Cb | Y | N | N | .... | Y |
| 114 | World Roamer Trailer | B | 850 | .... | .... | 16′ 0″ | ..... | | 6.50/16 | B&S | JC | 50 | 28 | ... | Col-G | I | CT | Y | N | Tu | N | Y |
| 115 | World Roamer Trailer | A | 275 | .... | .. | ..... | ..... | | ..... | B&S | PL | 20 | 5 | Gr | Col-G | I | Cb | Y | N | N | N | N |
| 116 | York-Hoover Body Corp. | Sun-Chaser | 490 | 1100 | 170 | 12′ 2″ | 6′ 4″ | 7′ 9″ | 6.00/16 | B&S | PL | 50 | 5 | Gr | ...-G | I&E | Cb | Y | N | N | † | N |

**ABBREVIATIONS:**

A—Alcohol
Al Wo—Aluminum and Wood
Ben—Bendix
B&S—Ball and Socket
Cb—Car Battery
Col—Coleman
CT—Car or Trailer Battery
CW—Caster Wheel
E—Exterior
G—Gasoline
Gr—Gravity
I—Interior
JC—Jack and Caster Wheel
JP—Jack and Caster Wheel and Parking Leg
Kam—Kampkook
Msp—Midland Steel Products
N—No or None
Op—Optional
PL—Parking Leg
Pne—Patented Pneumatic
Pr—Pressure
Pre—Preway
PT—Prest-O-Lite
Pu—Pump
Sh—Shower
Tb—Trailer Battery
TF—To fit Owner's Car
Tri—Tripod
Tu—Tub Bath
Vel—Vel-Vac Brakes
War—Warner
Wil—Willis
Y—Yes
†—At extra cost
††—All equipment except brakes is extra

kitchen stove and lamp. For fuel he carries high test white gasoline in a can. Yet, for his automobile he always operates on third grade gasoline. Then, in case high test white gasoline is not available he can draw fuel from the auto tank.

Another petroleum product saleable to trailerites is insect spray. They carry limited supplies, so they are frequent purchasers of spray in small quantities. Mr. Beshers carries a one-pint can.

Ice is another essential, purchased also frequently in small quantities. The trailer's supply lasts from 36 to 48 hours, so purchases are made on an average of at least every other day.

Foodstuffs also are saleable to tourists in trailers. Meals are not generally planned far in advance when the trailer is on the highway, so purchases are made frequently. With canned goods and cured meats, a service station-trailer camp can offer a variety of foodstuff without getting into the perishable items.

As a basic inventory of foodstuff Mr. Beshers suggests a variety of canned vegetables and fruits and cured meats. Milk and butter also are essentials. Beyond this inventory the service station grocery store can supplement its line with fruits and vegetables in season, purchased locally. Then the station has fresh lines in season, when prices are lowest and trailerites anxious to vary their menus are interested in purchasing.

Special foodstuffs for which the neighborhood is noted also might be sold through a station grocery store. Last fall Mr. Beshers was on a trip in southern Illinois. At a station stop for gasoline he noted a supply of nuts, gathered locally. Besides 10-gallons of gasoline he purchased two bushels of nuts, running the sale up to about $7.

Not every trailer camp might be in a position to carry a line of kitchen merchandise, such as ice, milk, butter, canned fruits and vegetables, cured meats, and seasonal fruits and vegetables, Mr. Beshers points out. These camps should always be able to tell trailer customers where these items can be conveniently purchased.

The camp operator also should be posted on the entertainment and recreational facilities in his neighborhood, that is within a reasonable driving distance. After the evening meal the trailerite might be in the mood for recreation and make inquiries at the camp. In a resort section there will be demands for information about boating, fishing, golf, tennis and so on.

Mr. Beshers recommendation is a bulletin board in the camp listing movies, lectures, musical entertainments and so forth in neighboring towns. Such entertainments, along with carnivals, sport events, circuses, county fairs usually flood a community with placards and window signs so there would be little difficulty to have material to tack on a bulletin board.

Another service feature is information. Trailerites usually are well fortified with information on highway routes and maps, but many lack adequate information on camps. Several services are available listing trailer camps but in some states listings are scattered, and trailerites still rely on swapping information about camps with others of their kind.

To provide adequate information on camps Mr. Beshers recommends that an operator know quite accurately all camps and their facilities within a 50-mile radius, and details of any outstanding camps within a 100-mile radius. A camp operator able to direct a customer 50 to 100 miles down the highway can at least get the trailerite to the next gasoline stop, where further camp information may be obtained.

One final inquiry was put to Mr. Beshers and that was whether trailer and cabin camps are a happy combination. The question was based on the idea that some marketers may be thinking of developing such a combination camp to attract overnight business from the trailer and non-trailer tourist.

In his opinion, and based also on conversations with other trailerites, the answer is that the trailerite prefers to hole in at a place catering only to similar travelers.

Get Ready Right Now To Answer The Question

# "DO YOU STOCK ELCO HYPOID LUBRICANT?"

Hundreds of thousands of 1937 model cars equipped with hypoid gears will soon be requiring service that absolutely necessitates a proven hypoid lubricant.

With the confusion that surrounds the selection of E.P. Lubricants for the new hypoid gears one question stands out: "What lubricants have *proven* that they can do the job?"

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The E. P. Lubricant That Made Hypoid Axles Practical



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By H. G. Humphreys

THIS comprehensive and instructive manual was published for the guidance and help of the many accountants and comptrollers who are called upon to deal with questions not found in other industries.

It is an important contribution to accounting literature and discusses the problems of oil accounting from the "bringing in" of a new well through the pumping, piping, refining and distribution of the product. Recent attempts to bring about better conditions in the industry under codes of fair competition and other regulatory measures are discussed in the text, and the author expounds his proposals for the handling and auditing of accounts in all the fundamental phases of the industry.

The book contains many illustrated forms of account and will be most helpful to the accounting departments of oil companies.

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NATIONAL PETROLEUM NEWS
1213 W. 3rd St., Cleveland, Ohio



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# Making the Station a Store

## The Man in a Trailer Writes About the Value of Appearance

*By* SAM A. WEISSENBURGER

The author at his desk in one of the country's leading department stores before he set out to be the Man in a Trailer

**Dear Editor:**

Last time I wrote you, I was spending a new sort of honeymoon. True, the wife of my bosom was along, but my honeymoon was with my new trailer, which I had recently bought and of which I was very proud.

If I remember correctly, we had reached the woods in northern Michigan, and I was a little nettled because I had traveled six weeks and no one in any gas station had even tried to sell me any of the numerous things I found I needed for my new "sweetheart of the road."

Well, the honeymoon is over. I can now go into gas stations and not expect to be sold anything for my rolling home.

After I wrote you I continued north and finally landed in Mackinaw City, where I met dozens of other trailerites. Almost without exception they were retired business men, not Big Shots, but men who were able to make enough money to travel and enjoy themselves. Many of them had kept stores in small towns.

I am sorry to say, Mr. Editor, these shrewd old fellows didn't speak very enthusiastically of the storekeeping in the oil industry.

Does it seem strange to have someone talk of "storekeeping" in the oil business? A number of us who have spent our lives in the retail business believe running a successful gas station is exactly the same sort of operation as managing a store.

One keen eyed old chap from New England gave me the idea for this letter to you.

We were sitting on the dock one afternoon, our fish poles pointed straight at the setting sun. My companion had been a storekeeper down east, and unquestionably a smart one. He had made considerable money and he and his wife, whom he called Ma, were out seeing the country.

He was not usually very talkative, but when he did talk, he had a crisp, dry Yankee humor which made him good company. That day on the dock we were talking about competition. I had asked him how he had met his fellow merchants' competition.

"Well," he said, "no one asked me to open a store in Crossingville. No one guaranteed me any business, so I reckon I was the competition to the older merchant. I admit I tried to make the other fellows meet my competition and I tried not to do too much worrying about how they ran their stores."

He pulled in his line, looked at the bait, threw the line back in the water and sat silent. After a bit he said: "That isn't exactly true. I did have competition that worried me. It wasn't any store. It was the mail order catalog. If you ever lived in the country, you know the mail order catalog worked 365 days a year. It rested alongside the Bible and the Life of John Wesley till the new one came out. When the new one was brought home from the post office, the old one was carried to the out-building, where it could be studied at leisure."

He gave me a wintry smile and said,

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NATIONAL PETROLEUM NEWS announces, with a great deal of pleasure on the part of its editorial staff, that the Man in a Trailer will write regularly for it on the general subject of Making the Station a Store.

Not only does Mr. Weissenburger, the Man in a Trailer, write from a background of 21 years of merchandising experience in one of the country's leading department stores; but his present daily experiences and contacts with the oil marketing industry, through his traveling and living in many parts of the country in a trailer, will add timeliness and first hand observations to his articles.

The Man in a Trailer will write informally, as in this present article and in his first appearing a few weeks ago, when he wrote only shortly after buying his trailer on his failure to find at the oil company gasoline stations most of the things needed to make life comfortable in a trailer. In this informal style, however, are contained most valuable principles and practical suggestions for Merchandising at Service Stations valuable to the dealer-merchant operating one station under the so-called "Iowa Plan" or to the oil company executive with many stations under his supervision.

Mr. Weissenburger—the Man in a Trailer—has been advertising manager, sales manager and merchandise manager at the Halle Bros Co., department store in Cleveland, and a member of its executive board for 15 years. At one time he was retained as a consultant by newspapers to address merchants in Buffalo, Detroit, Baltimore, Columbus and Chicago. He has been a speaker at conventions of the National Retail Dry Goods Association and a contributor to journals in this and other fields. He was chairman of the Come to Cleveland Committee, which stirred the city to wake from its lethargy during the depression and created the big Great Lakes Exposition of the past summer.

"You know, we down-easters don't waste much. When I opened my store, I realized I couldn't stock everything in the mail-order catalog, but I could make trading with me a kind of enjoyable experience. In those days, we didn't have movies, and hitching up and going to town to trade was quite a spree. I tried to make my store a place where the farmers and their women folk would feel a welcome and would come to know they were dealing with someone who would get anything they wanted just as quick as they could order it from Chicago.

## Primary Merchandising Principles To Use in Station Displays

1. No display should merely call attention to itself, but to the merchandise displayed. When a customer says, "That is a fine display", he might better say, "I would like to own that merchandise". You are not selling your ability as a display artist, but the merchandise which you show.
2. Keep displays simple. The human mind can only take in one thing at a time.
3. Good displays should teach customers how to use merchandise.
4. Displays can be used to introduce other merchandise besides the principal item displayed. Gas stations do this when they put spray guns with fly spray, etc. etc.
5. Displays should be silent salesmen. They should sell merchandise, not merely fill up space.
6. Frequent changing of displays is essential. Monotony kills. Faded and dirty displays are worth exactly nothing.
7. Displays should have elements of news value. The changing season, new uses for old products, and so on; but the news angle should never detract from the principles of simplicity and one idea at a time.
8. The personnel and cleanliness of the station, its entire appearance are all elements of display.
9. Make your station look like the merchandise you sell. If you are a cut price artist, it doesn't make so much difference, you can be messy and disorderly; but if you want to sell Quality merchandise to Quality people, you and your station must look the part.
10. Women are trained to look at displays. Make a play for their attention. Increasing numbers of women are coming into gas stations, and don't forget they also influence the trade of their husbands. Your station must look good to the ladies or they will pass you up.

MAJOR oil companies have found the above statements tell the story of LUX Carbon Dioxide Extinguishers. Let us show you how LUX can solve your own fire protection problems. Write today for new free folder "Instant Death to Any Fire".

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For the past several years, motorists in the East and in the South have been familiar with "the ESSO sign". This big red, white and blue ESSO oval has marked the source of fine products and courteous service at more than 30,000 ESSO STATIONS and ESSO DEALERS from Maine to Louisiana.

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"The old ladies would come in and chew the calico to see if the color would run and poke around the store, while the men would look at the harness, swap yarns and crack jokes. They couldn't do that with either Mr. Sears or Mr. Roebuck.

"One day I got a good hunch. I knew people came to stores they liked. I couldn't meet all the cut prices, but I could be certain that my customers would get excellent value for every cent they spent with me. My conviction was that people would pay a penny or two more to be dead certain the quality was excellent. Then was when I decided my store had to *look* as good as the merchandise I sold.

"My hunch was: Make my store look like Quality!

"I had been down to Boston and I had noticed the Cheap John stores were littered up, were dark, not very clean, the clerks looked kind of seedy, there were too many signs and the store was too noisy. The fine store, I noticed, was orderly, bright and spotlessly clean. The good store seemed more calm, but still busy. People had time to think of merchandise not just of bargains.

"WHEN I got my hunch I bought more oil lamps to make my store bright at night. Most of my trade came in after the chores were done. I painted my store outside and inside, re-arranged my stock, put the women's goods back in a more private location. The clerks slicked themselves up, and, as one old fellow said, we all 'kind of put on airs.' Well it worked. The men who traded with me were good, prosperous farmers. The best money makers among them ran the best looking farms. The women were thrifty and good housekeepers. They felt at home with neatness and order.

"After a while it seemed both men and women felt kind of proud to say they had bought their stuff at my store. They thought it sort of gave them standing in the community. Like today we all like to sail on the Queen Mary or the Normandie. Of course, some of my trade still sent away to the mail order house, and some others went to the cut price outfits, but I gained a lot of substantial people as permanent customers.

"Making money in retail stores is simple. First you pick out the kind of people you want to trade with you. Second, you run the kind of a store those people want and expect. You have got to make your customers come in and you must make your merchandise go out. It is the same idea if you run a hotel, a fishing camp or a gas station."

As he got up and pulled in his line, he looked at me and said, "Sam, you tell your friend, the Editor, if the boys in the gas stations want to make more money, they will have to turn their gas stations into a store."

I thought that one over. Turning a gas station into a store. That was exactly the idea. Sounded simple, but how to do it. So I asked a great many storekeepers how they would start, and I have checked their ideas with gas station operators and I have compiled some suggestions.

First of all, let me tell you a story


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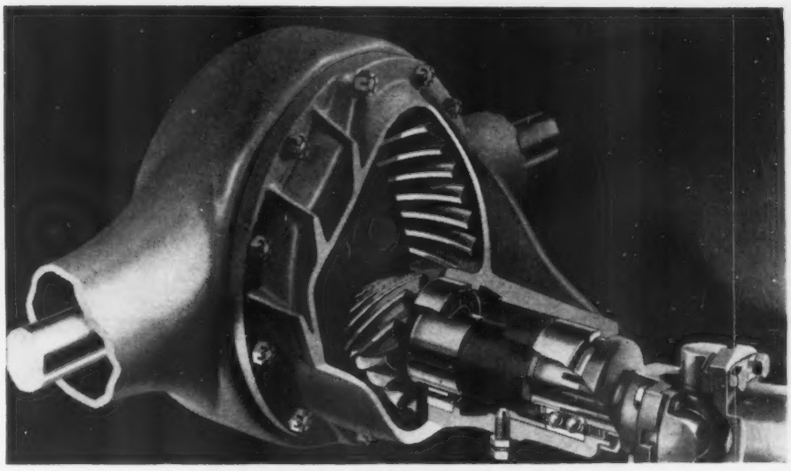

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**HUMBLE OIL & REFINING COMPANY**

*Service goes with everything we sell*

of one smart young fellow who owns two stations and has his eye on several others.

This is the true story of Joe Cook (only that isn't his name) who seems to have had the same ideas of storekeeping that my friend from New England used.

Joe Cook was a farmer boy who got very tired of caressing the cows before dawn every morning. He went to work for a tight fisted, thin-lipped Yankee who ran a grocery store in a small town in Ohio.

Joe was to learn the grocery business and also to take care of the filling station which old man Rockwell ran as a side issue. Getting to work early was no novelty to Joe. Sweeping out the store and tidying up the gas station was easier than using a pitchfork in the cow barn. Talking kindly to customers with money to spend was a cinch in comparison to convincing a balky cow he meant no harm to her as he took away six or eight quarts of her milk.

Joe liked his job and kept his ears and eyes open. His hard boiled boss admitted he "had seen worse clerks than Joe." One day Joe decided he would go into the oil business. He had saved some money and he bought a run down gas station in another part of town. Now Joe was on the spot. It was a case of sink or swim.

The first thing Joe decided to do was to make his place look bright, clean and inviting.

Old man Rockwell, the groceryman, may not have been an easy man to work for but he did teach Joe a great deal about the value of soap and water when mixed with a generous proportion of elbow grease. Right from the start Joe came down to his station earlier than his customers. After cleaning up he spent the next 30 minutes on his displays.

He remembered Eben Rockwell snapping out as he made Joe polish and repolish the apples, "Remember, Joe, your groceries have to look better to your customer than his money feels in his pocket."

As Joe fixed up the cans of oil and the grease, he could hear the old Yankee's rasping voice, "Keep your displays fixed up just like a girl going to a party. The smart girl wants to attract attention. She knows that no man ever married a woman before he looked her over. Likewise, not many customers buy merchandise before they look. The better things look, the more likely they are to go out. That goes for groceries just the same as it goes for women."

Before Joe bought his station he kept his eyes open when he drove into other stations. He saw many things which filled him with doubt. He made up his mind about a lot of things to do, but a much longer list of things to avoid.

JOE was telling me the day I talked to him that he noticed too many advertising signs cluttered up the approach to driveways, other signs were placed helter-skelter all over the station itself, water buckets, battery kits and water hose were left standing around for customers to step over or stumble over.

"Joe," I remarked, "Order is the first law of Heaven." "I don't know anything about Heaven," said Joe, "but I sure used to get Hell from old Eben when there was any disorder. You know the old coot sort of fancied himself as a wisecracker and he used to say, 'First you must have order then it is easy to get orders'."

I looked at Joe's display and asked him what system he had for picking out the merchandise he wanted to feature.

"One night I had gone to the movies," he replied. "It was a show about Ziegfeld. There were a lot of girls in the show, but I noticed that, when he wanted to make one girl stand out, he put the spotlight on her. He didn't mix her up at that minute with comedians and other actors. You looked at her and you could decide whether you liked her or not.

"When I got back to my station the next day, I decided I would try that idea out in my business. If I decided on Tuesday to introduce a certain brand of oil, I wouldn't clutter the station up with fan belts and fly spray the same day. You know how often you look in store windows that are so filled up with all sorts of things, you just can't see any one thing, and consequently you don't buy anything.

"So I decided to use the idea of a display being the spotlight. On Tuesday, for instance, it would be oil, on Wednesday fly spray, on Thursday possibly fan belts and so on. If the merchandise didn't sell, it didn't get the spotlight again for a long time, but each item had a fair chance and that's all any of us deserve."

"Joe, why do you change your displays so frequently?" I asked as we sat drinking the fresh orange juice he was selling.

"That's something else I learned from


# Distinguishability

• Since all gasoline coming straight from the refinery looks the same to the motorist, you can help him remember your brand of gasoline by adding a color to it. Color is actually the only feature which readily enables the motorist to distinguish one brand from another.

Every motorist sees your gasoline either in the pump globe or in the visigauge before you pump it into his tank, but every motorist is not as apt to remember your gasoline unless it has a particular color of its own.

Add a Dykem color to your gasoline now and help the motorist remember and cultivate a preference for it. Helping him to associate this color with the brand name will enable you to make greater profits.

Write, wire or phone today for full information on our complete line of Dykem colors.

•

**Dykem Colors For Gasoline**

**Dykem Orange GY** *(yellowish orange shade)*
**Dykem Orange Y** *(reddish orange shade)*
**Dykem Orange GR** *(deep orange shade)*
**Dykem Bronze Orange R** *(bronze orange shade)*
**Dykem Amber Y** *(amber shade)*
**Dykem Brilliant Yellow** *(sunset golden shade)*
**Dykem Yellow N** *(lemon shade)*
**Dykem Green GN** *(bright emerald shade)*
**Dykem Green YN** *(medium emerald shade)*
**Dykem Green N** *(bluish grass shade)*
**Dykem Green BN** *(deep sea shade)*
**Dykem Blue** *(deep sky shade)*
**Dykem Violet** *(deep violet shade)*
**Dykem Purple R** *(bright purple shade)*
**Dykem Red B** *(bluish rose shade)*
**Dykem Red** *(scarlet shade)*
**Dykem Brown YR** *(walnut brown shade)*
**Dykem Black B** *(deep black shade)*

**DYESTUFFS & CHEMICALS**
INCORPORATED
11th & Monroe Sts. St. Louis, Mo.

*In Canada:* The Dykem Company of Canada Ltd., 14 Toronto St., Toronto, Ont.

old man Rockwell. He was queer as Dick's hat band in lots of ways, always making up proverbs and jingles to make us young fellows remember. He hated to see fly specks, faded colors, cobwebs and dust on the displays. He said they were the calling cards of the sheriff; so he made us remember a silly verse he wrote: 'Ten minutes a day on any display, will keep the judge and the sheriff away.'

"Of course what he meant was that ten minutes a day was better than two hours every two or three months if you wanted to keep your store from looking monotonous. He used to say monotony caused more divorces than bad tempers. Our displays may not always have been the best, but they certainly were not monotonous."

One evening after sundown a few weeks after Joe had opened his station, Joe tells me, old Mr. Rockwell walked into the place for the first time. Joe was naturally proud of his station and was glad to show the old gentleman around. Mr. Rockwell looked but said little. Joe waited on his trade. Automobiles, trailers and trucks came in, got their gas and rolled briskly away.

The old man sat and looked and looked. Finally a lull came, and he said, "Joe, what are you doing about Dora French?" Joe laughed long and heartily, for he remembered Dora. She was a bride when Joe came to work for Mr. Rockwell. The kind of a bride who stewed oysters in their shells and was in a constant state of surprise because coffee had to be ground and cans had to be opened.

THE old man cackled a little. "You seem to have a right smart amount of women folk coming in here, but you don't seem to show them how to use the stuff you are displaying. Joe, maybe you know as much about your oil and gas business as Webster does about dictionaries, but there must be a lot of Dora Frenches when it comes to the things you have to sell. Your displays don't show them how to use the things you are trying to sell them.

"Remember when canning season came, how I used to make you young fellows put out the Mason jars, the rubbers, the kettles, the sugar and the spices? Lots of hard bitten old women would never look at the displays, but would still haggle about the price of strawberries. Lots of others, though, would learn what to do and how to do it by looking and asking questions. We made some money by introducing other merchandise to take care of the narrow margin on sugar, lots narrower than on gasoline.

"My boy, nobody ever bought an automobile, a dress or a suit of clothes except for the use and pleasure he could get out of them. Somebody, sometime, had to show us all how and why to do everything we do."

After his boss had gone, Joe realized he must have missed a lot of points in the business of selling to women. He would try to get a woman's viewpoint as soon as he could.

The next morning about 10 o'clock a coupe drove up and Mrs. Redmond stuck her head out of the window and shouted, "Fill 'er up, my good man. This time it is on me," Joe grinned. He liked Mrs. Redmond with her earthy, rough, hail-fellow-well-met manner. She liked Joe. She had followed him from Rockwells and bought gas from him since the day he opened.

Joe put in the gasoline, absently looked at the oil gauge, came over and put his foot on the running board and stared at Mrs. Redmond. Her weather-beaten face showed her surprise. "Look here," she barked, "I am an honest married woman and can't have goggle-eyed young men standing on my running board staring a me. Snap out of it or I will call my Mama."

She roared with laughter as Joe sheepishly looked way. "I was going to ask you a favor," Joe said very seriously. Mrs. Redmond's eves narrowed and she said, "Well, what is it?"

"You worked for a long time as a corset buyer in a big store in Cleveland before you married Mr. Redmond and came here to live, didn't you?" Joe asked.

"Well, they hadn't exactly just put Thomas Jefferson into his first pair of long pants when I went to work, but it was plenty long ago. If I never see the inside of a department store until Gabriel takes up saxophone playing, it will be soon enough. But what's that to you?"

"I wondered, Mrs. Redmond," said Joe earnestly, "if you would help me get things around here more to the liking of women than they are now. Sort of give me a woman's viewpoint."

Her kindly face gleamed with surprise and pleasure. She said, "Well, it's a long way from corsets to gasoline, but no farther than from Baltimore to Picadilly. If


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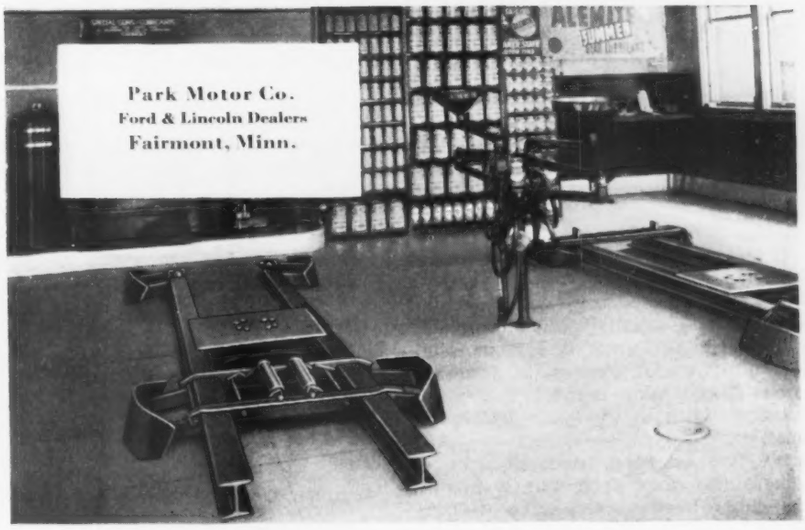


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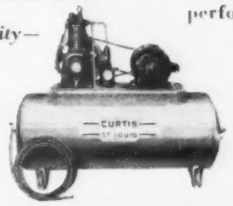


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Brilliant in appearance and performance—Positive Centro-ring lubrication—Timken bearings—Centrifugal unloader—"V"-belt drive—Precision workmanship.

**CURTIS PNEUMATIC MACHINERY CO.**

1965 Kienlen Avenue, St. Louis, Missouri

NEW YORK • CHICAGO • SAN FRANCISCO

## "Hold Everything" Featured in Highway Signs

The tourist who approaches the little village of Johnstown, Ohio, in search of a rest room is re-assured as he reads one of the road signs of the Jay Oil Co. These large circular painted signs are located on all highways leading into Johnstown, according to J. N. Benedict, owner of the company. They read, "Hold Everything! Modern Rest Rooms—Gulf Gasoline," and each sign gives the distance to Benedict's station

Mrs. Simpson can shove an ocean out of her way, I guess I can help shove gasoline and oil to the members of the Ladies Aid. It is going to be a great year for us middleaged dowagers. Let's go!"

"Do you believe, Mrs. Redmond, some women feel strange or ill at ease driving in to a gas station alone?"

Mrs. Redmond nodded. "Yes, I believe some of them do, especially the older ones. Sort of like going into a barber shop for a hair cut. Lots of women do it nowadays, but it still takes nerve."

"What would make the ladies feel more at ease?"

"Don't ever let other men sit around and make the place look like a hiring hall or labor headquarters. No woman yearns to be given the once-over while she is in the throes of having her oil checked. If you know what I mean," and she winked. "Get rid of those visiting firemen."

"What else, Mrs. Redmond?"

"Joe, I am old enough to be your Grandma and I am going to do some straight talking. You asked for it."

She looked him straight in the eye. "Women like to buy from men who look neat and prosperous. Don't let yourself ever again sport a two days' growth of beard. Keep your hair cut and combed. Nothing looks so slovenly, either, as a good uniform covered with dirt and filth. When I was a corset buyer, I used to tell the girls who waited on the customers, 'Believe it or not, girls, you are part of the display in this department. A most conspicuous part because you are moving around. People watch things in motion; see that you give your customers a break.' Joe, don't be stingy with your laundry. Keep clean. It's a great advertisement in going after women's business.

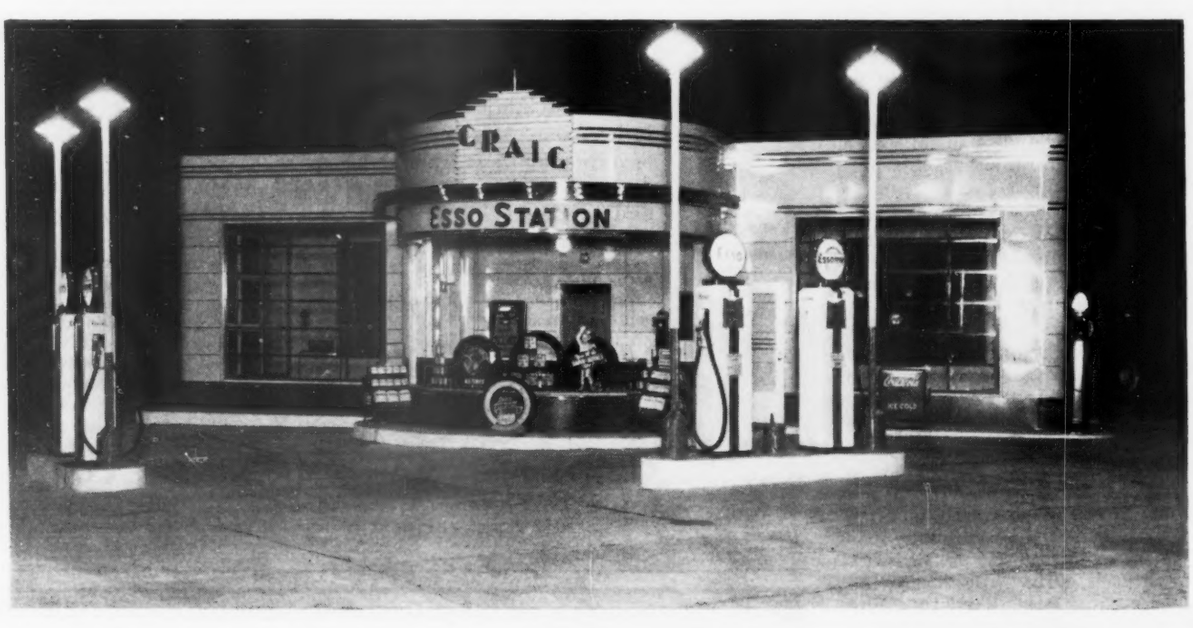
"Thanks a lot, and what else?" Joe was blushing but, as Mrs. Redmond said later, he could take it.

"When I was the buyer in Cleveland, I had to work with our window trimmer. He was no bowl of cherries, but if you wanted a window, you had to play ball with him. My department was on the sixth floor, and an Avenue window was a god-send. Our display manager taught me a lot about the value of windows. If he were here today, he would cut yours ears off." She waved a heavily jeweled hand at Joe's windows. "You put fan belts all over your windows like strings of sausage. I can't see into your store. If I were in and wanted to look out, I would have to peek through the loops, or around them. I imagine when you are in there and looking out at your customers coming in, you look like Dracula hungry for victims.

"We women have been educated from birth to do window shopping, and we have educated most of the men we know to take a peek at the same time. You gas station men let your best spot go haywire. Make your windows invite the ladies into your shop, and don't worry, the men will trot along with them."

Joe finished the yarn and said to me. "Mrs. Redmond and Mr. Rockwell taught me a lot, but the most important thing I ever learned was that you must learn how to make your customers come in and make your merchandise go out."

And I added, "That's what my old New England friend meant when he said 'You must turn the gas station into a store'."




An example of the efficient use of display of both merchandise and services in a modern station of the Craig Oil Co. in Erie, Pa. The design of the two service bays provides for ample display for both these departments and the front of the station building proper is entirely window display space. The building is porcelain enamel construction and flood lights and island lights are of the mercury vapor type

The Columbus Consumers' Co-operative service station on North High St., Columbus, Ohio, which sells gasoline, oils, lubrication service, some groceries and also handles buying orders for members on other lines of merchandise

# Ohio Consumer Co-op Station Expanding Into Other Lines

*Cleveland News Bureau*

OIL "co-ops" have long been competitors of oil marketing companies in rural areas and small towns as an outgrowth of the farmer co-operatives, but only in late years, and at few points, have the petroleum dollars of motorists in cities and the larger towns been sought by the strictly consumer type of "co-op."

Such a consumers' co-operative has been operating for almost a year and a half in Columbus on North High St., a block north of the campus of Ohio State University, sponsored largely from among the faculty of the university. So far, two five per cent patronage dividends have been paid.

From an oil co-operative operating a service station the Columbus Consumers' Co-operative, Inc., has expanded to handle groceries, coal, men's clothing, dry cleaning, shoes, milk, paint and electrical equipment, also insurance, and loans through a credit union.

Some of these lines of merchandise are handled through a stock at the service station. Other lines are obtained through buying agreements.

The co-operative was organized with 29 charter members in January, 1935. Although the corporation was empowered to deal in nearly all forms of consumers' goods and services, gasoline and oil was the first venture.

Membership at the end of 1935 was reported in the co-operative's pamphlet as 427 and it is reported the number of members had increased by 50 per cent at the end of summer of 1936.

A membership in the organization costs $5 cash, or $1 in cash with the balance taken out of patronage dividend accumulations. Members may make additional investments in the co-operative through purchase of certificates of indebtedness issued in $5 denominations, bearing 5 per cent interest. Membership may be transferred to another person, in case the member moves out of Columbus, but membership fees are not returnable.

The financial report shows the co-operative began as a buying club in May, 1935, and opened the service station formerly operated by a dealer, July 17. Total sales to Dec. 31, 1935, amounted to $15,823.34 at a net profit, or "saving," as the co-ops call it, of $1,442.54. In the first quarter of 1936 total sales were $14,221.47 and the net "saving" was $958.04. The co-op sells at the general established price for motor fuel of the same grade.

Two patronage dividends on all lines, including petroleum products, and one on coal, clothing and dry cleaning have been paid. The coal, clothing and dry cleaning dividend of 8 per cent was paid Oct. 1, 1935. The two dividends on all lines were 5 per cent each, paid Jan. 1, and July 1, 1936.

Through buying arrangements, coal, men's clothing, dry cleaning, shoes and milk and dairy products may be obtained by members.

To provide members with milk the city has been divided into two zones, one zone served by one dairy, the other by another dairy. Members wanting milk service are to telephone the dairy. Milk tickets are purchased from the wagon driver, the co-op member retaining the receipt strips for patronage dividends, to present at the oil service station when a dividend is paid.

The service station also is headquarters for members obtaining coal through the co-operative. A connection has been made with a local coal company and orders are taken at the service station. Members may pay for their coal at the station or they may pay the truck driver. The co-op does not handle coal on credit, although a member may obtain credit for coal purchases through the credit union.

Groceries are handled at the service station, in a store room erected at the rear of the station building. The line includes canned vegetables, soap, honey and other staples. Potatoes direct from a farm are handled in season. On fruit and some bulk commodities joint purchasing orders are executed.

Men's clothing and shoes are available through arrangements in which the co-operative is given a commission. Two men's clothing establishments and one shoe store, in downtown Columbus, are parties to the arrangement. Members purchasing in these establishments pay for the merchandise, inform the stores that the purchases are made to the credit of the co-operative and retain the sales slips.

Dry cleaning service also is available through an arrangement with a cleaning establishment. The cleaning plant calls

for and delivers garments at the member's home and issues sales slips marked to the credit of the co-operative.

The co-operative also has a credit union for loaning money to members and inquiries are to be made at the service station. The insurance business is not part of the co-operative's set-up but an employe at the service station is an agent for the Farm Bureau Insurance Co., to write fire, automobile and life insurance policies. Patronage dividends are not paid on insurance. Profits there are applied to premium reductions.

Orders may be obtained also at the service station for paint and electrical equipment, purchased on an agreement with the Ohio Farm Bureau.

The principal petroleum product outlet for the co-operative is at the service station on North High Street, served by tank truck from the Ohio Farm Bureau bulk plant. A commission agreement has been arranged also with a dealer station in another part of Columbus in case members find it is not convenient to drive to the High street station.

The service station also handles anti-freeze, lubrication service and tire and battery repairing. For new tires, batteries and accessories, members may inquire at the station and make purchases through an agreement the co-operative has with a rubber company.

The High Street service station has three gasoline pumps, an island display cabinet, and an outdoor lift between the drives and the front of the station building. Buying orders are handled with customers in the station office and groceries sold in the separate building at the rear.


*Are You Selling*

REPEAT BUSINESS?

● The first time a motorist drives in, is your opportunity to make a sale . . . *to bring him back for future sales*—there's the important point! Part is your job and part the product's. CUSHING Gasolines make friends because each is a *Thoroughbred!* Sell the motor fuels that meet today's demands, gasolines you can endorse — money makers — *that's* CUSHING *Thoroughbred Quality!*

*The* COMPLETE *Line!*

WRITE, WIRE OR PHONE FOR QUOTATIONS

CANNON BALL SERVICE

Cushing Ethyl Gasoline
Cushing Anti-Knock Regular-Leaded
Anti-Knock Pressure 400 End Point
60-62 Better than U.S. Motor
60-62 Under 400 End Point
64-66 Under 375 End Point
68-70 Under 360 End Point
42-44 W.W.D.T. Kerosene
38-40 Light Straw Zero Distillate
32-36 Overhead uncracked Gas Oil
Cracked Fuel Oil

CUSHING *Refining & Gasoline* COMPANY

General Sales Offices: CUSHING, OKLAHOMA
Division Sales Offices: 2007 FOSHAY TOWER MINNEAPOLIS, MINN.

REFINERIES: CUSHING & BLACKWELL, OKLAHOMA


## Guaranteed Winter Starting Campaign Launched By Sohio

CLEVELAND, Nov. 30. — Through a plan just introduced to Ohio motorists, the Standard Oil Co. of Ohio guarantees winter starting of its customers' cars under specified conditions. If the holder of the guarantee complies with the conditions and requires the services of a garage to start his motor, the Standard Oil Co. will refund the amount of the motorist's receipted garage bill for services (not parts) in getting the engine started.

Point-of-sale station advertising, radio, and newspapers are being used to spread the story of this unusual offer over Ohio. The first advertisement stated that the motorist is not obligated to buy anything extra, nor to pay any premiums, to participate in this plan. It further stated that any car of sound health is eligible, regardless of vintage, make or model.

Customers who wish to take advantage of the plan are given a "Certificate of Guaranteed Winter Starting", which must be filled out with name of customer and make, license number and speedometer reading of his car. It is then authorized by the station attendant.

There are three conditions under which the guarantee is granted. First, the motorist must begin the winter with the three basic Standard products — gasoline, motor oil, and gear lube — and continue using them throughout the winter.

Second, at the time the certificate is granted, the customer's battery must read at least 1.250 in all cells. The battery must be kept at or above that reading throughout the winter, and must be given a free Sohio battery checking service at least once each two weeks and a record kept on a card provided for that purpose.

Third, the motorist must agree to use care in the operation and maintenance of his car.

Under the above conditions the company guarantees winter starting, backed by an agreement to pay the service charge of any garage in getting the car started if the owner cannot start it. The guarantee becomes effective when properly countersigned and dated, and expires April 1, 1937.

If it is necessary at any time for the customer to ask the company for reimbursement for garage starting service, the following information is required by the company: receipted and itemized garage bill; a notation from the garage mechanic certifying what in his opinion, caused the trouble, and what was the mechanical condition of the car when brought to him for service; the Sohio battery service card showing history of battery; and the customer's name and address and serial number of the certificate.

### Trailers Displayed

LOS ANGELES — A feature of the Los Angeles Auto Show was the display of thirty different trailer models.

New improvements include collapsible rubber bathtubs, cellophane windows as a means of decreasing weight, 4-horsepower, gas motored generators for elec-

tric current, and numerous improvements in detail and arrangement.

Southern California manufacturers report a strong steady sale of trailers and are getting their production lines in order for the heavier demand expected next spring.

## Joint Tax Bureau Is Considered

NEW YORK, Nov. 28.—Tentative plans for the formation of a national bureau to dispense information on tax laws were revealed at a meeting of the Northeastern states group of the North American Gasoline Tax Conference.

The bureau would be known as the Federation of Tax Administrators and would be composed of representatives of various groups now subject to federal excise taxes, such as petroleum, tobacco and liquor.

Its purpose would be to co-ordinate information relating to excise taxes and act as a clearing house for dispensing the information to the different groups. Heretofore the different groups affected by federal excise taxes have acted independently.

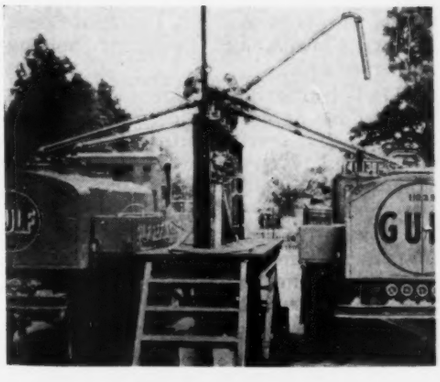
Committees were appointed to contact the Interstate Commerce Commission on the problem of misbilling petroleum products in hopes of working out some plan to lessen this practice. Another committee was appointed to work on uniformity in state gasoline tax laws.

Other objects discussed at the meeting were regulation of motor carriers by the Interstate Commerce Commission, the Hayden-Cartwright law, diesel fuels, law enforcement and tax evasion, and new legislation by states.

### *New Loading Assembly*

These new truck and tank car loading assemblies, manufactured by Oil Equipment Mfg. Co., Louisville, Ky., feature balanced swing joints which enable their use at any vertical or horizontal angle. The vertical swing joint is designed to take the load off the packing and is available with either single or double feed, dependent upon the size. With a divided counterweight the delivery pipe can be swung all the way over the top instead of around on the heavy-duty horizontal joint.

A sliding sleeve on the arm permits extension from two to four feet and the end of the delivery pipe has a 25-degree swing on a ball joint for convenient adjustment. Location of the control and relief valves is at the option of the purchaser.



### English Companies Control Stations

CLEVELAND, Nov. 28.—Oil companies in England are reversing the trend in retail operations in this country and are going back to the direct operation of service stations, after a period of operating through leased facilities, according to Wm. H. Huxley, head of Huxley & Co., of England, a recent visitor in this country.

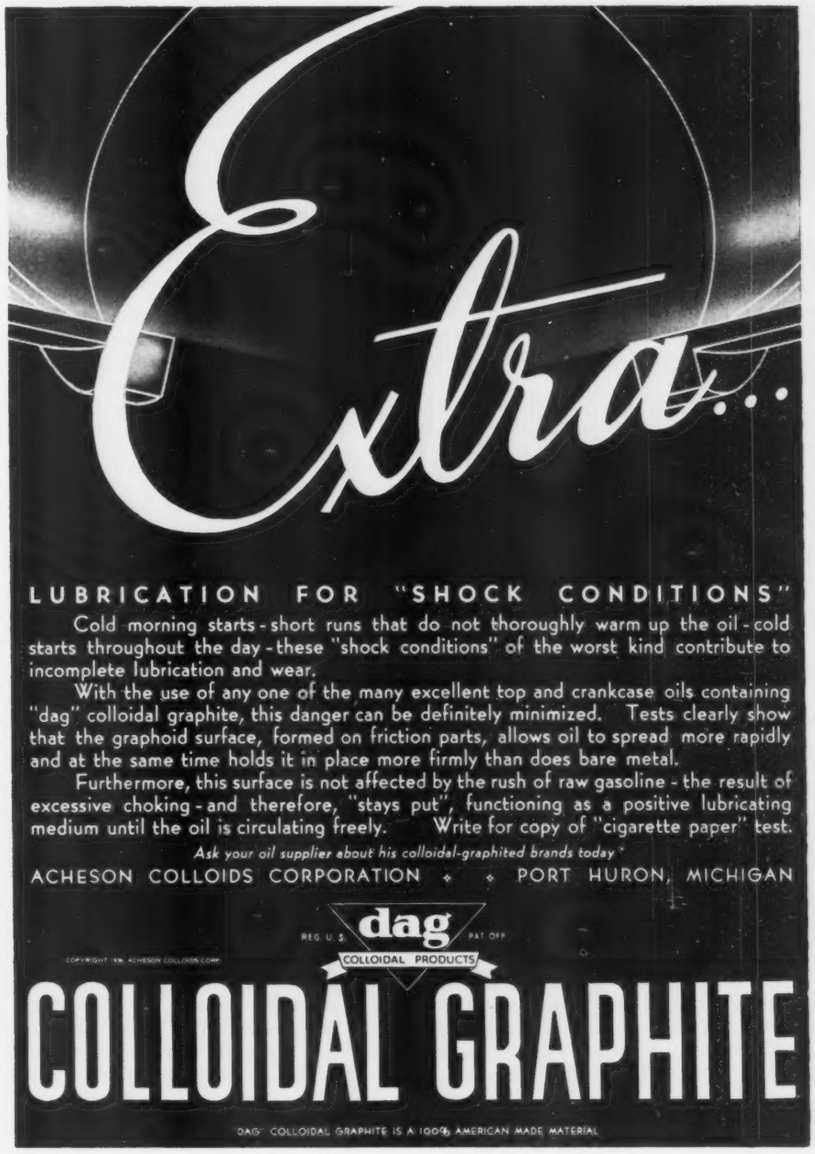
Mr. Huxley has been in the oil business in England since 1889 and has made several visits to this country, the last being four years ago. He is exclusively in the lubricating oil and grease business and has now moved his headquarters to London E C 4 at 30-31 St. Paul's Churchyard, still maintaining his Liverpool office.

Accompanying Mr. Huxley on his visit to the United States this time was Thomas L. Barks, of Barks, Williams & Co., Ltd., London, who handle light oils.

### Shell Union Dividends

Preferred stockholders of Shell Union Oil will receive all their back dividends and holders of the common will receive 25 cents a share as the result of action taken by the company's directors last week. More than $3,250,000 will be required to pay the dividend on the common.

The payment on the common stock, of which Royal Dutch Shell interests own about 64 per cent, will be the first since June 30, 1930, when 35 cents a share was paid.



Extra...
LUBRICATION FOR "SHOCK CONDITIONS"
Cold morning starts - short runs that do not thoroughly warm up the oil - cold starts throughout the day - these "shock conditions" of the worst kind contribute to incomplete lubrication and wear.
With the use of any one of the many excellent top and crankcase oils containing "dag" colloidal graphite, this danger can be definitely minimized. Tests clearly show that the graphoid surface, formed on friction parts, allows oil to spread more rapidly and at the same time holds it in place more firmly than does bare metal.
Furthermore, this surface is not affected by the rush of raw gasoline - the result of excessive choking - and therefore, "stays put", functioning as a positive lubricating medium until the oil is circulating freely. Write for copy of "cigarette paper" test.
Ask your oil supplier about his colloidal-graphited brands today
ACHESON COLLOIDS CORPORATION ◆ ◆ PORT HURON, MICHIGAN
REG. U. S. dag PAT. OFF.
COLLOIDAL PRODUCTS
COLLOIDAL GRAPHITE
"DAG" COLLOIDAL GRAPHITE IS A 100% AMERICAN MADE MATERIAL

*NOTE: This advertisement appears in current issues of eight leading Automotive Journals as a full bleed page.*

ACHESON COLLOIDS CORP., PORT HURON, MICH.
Please send gratis, story on "dag" Colloidal Graphite.

NAME.....

ADDRESS.....

# *Automotive* NOTES AND COMMENTS

*Cleveland News Bureau*

IN THESE hectic days of automatic chokes, hypoid gears, 4½-million car years and 1937 automobile shows in November, 1936, it must be warming to the hearts of those with rural leanings to know that this country has not gone completely motor-minded. For the U. S. Bureau of the Census has just let us know 639,439 bicycles were made in the U. S. in 1935, the highest production since 1899.

The motor-mad masses will also find little solace in the fact that there are 2765 cows — live, walking cows — in the city of New York today, if we can believe the census takers. Of course, these cows offer no immediate threat to the existence of the oil industry, or to the bicycle industry either, but they must certainly tie up traffic when going to pasture.

* * * *

The National Association of Sales Finance Companies, whose members are the ones who come to take your automobile away when you tire of paying for it, has made a survey, based on 1934 Department of Commerce figures, which show the automobile buying habits of 18,129 families.

These families are located in six cities: Austin, Texas; Portland, Maine; Columbia, S. C.; Salt Lake City, Utah; and Trenton, N. J.

The survey shows that in every 1000 families, 503.8, or 50.4 per cent own cars. Per 1000 families, the report reveals that the most cars are owned by families in the $1000 to $2000 income group. These folks own 203.8 cars, which represents 61.2 per cent of saturation in this group. In the plutocratic income group of $7000 and over, which includes only 7 out of every 1000 families, it is shown that 90.5 per cent own cars.

In the group having no income, more than one quarter of the families had cars, or 28.1 per cent. Which, of course, brings us right back to where we started —the National Association of Sales Finance Companies. In this group, about the same percentage of car owning families had no bath tubs, indicating that bath tub gin is on the wane.

* * * *

What is claimed to be the first light Diesel engined truck to be built in this country is being produced for export by the Diamond T Motor Car Co., according to C. A. Tilt, the company's president. It is a 6-cylinder 1-1½-ton unit. Substantial orders are said to have been received from South Africa and Turkey.

* * * *

The old saying — When in Rome, buy a Roman — is certainly applicable to Michigan. This state is proving to be one of the best automobile markets in the country this year. According to the Hudson statistical department, an average of one new car for every 39 inhabitants was sold in Michigan the first six months of 1936. The national average for the same period was one car for every 66 persons.

**BY JOHN W. THOMPSON**
N. P. N. STAFF WRITER

First in the comparison was the District of Columbia, with a 1 to 26 ratio. Second was Nevada, with an average of one for every 31 residents. Nevada, however, purchased only 2910 new cars during the six-month period.

* * * *

Back in 1900, one of the principal accessories on Packard cars was an ammonia squirt gun. It was used to disillusion dogs who persisted in nipping at the tires. It was not considered news in those days when a dog squirted an automobile —but when an automobile squirted a dog —that must have been front page stuff.

* * * *

A Packard is claiming the record for the greatest mileage record ever made by an automobile. In Los Angeles, a Packard Twin Six owned by the Pickwick Stage Co. has traveled 1,000,000 miles. Probably be due for an oil change any time now.

* * * *

Harvey S. Firestone, Jr., of the Firestone Firestones, pointed out an interesting tire value comparison in a recent radio broadcast in connection with the New York Auto Show. In 1913, a first-quality tire for a Ford car listed for $22.80 and averaged 3500 miles. Today a first-quality tire for a Ford sells for $12.40 and averages 21,000 miles. This means that in 1913 you paid $11.50 for the same tire value that you get today for $1.00.

Mr. Firestone probably wouldn't object if you used those figures to toss at some of your more cantankerous tire customers.

* * * *

It used to be that the New York Auto Show was a curtain opener for all the new cars. Now it is a review of the previews that take place starting two months before show time. Few of the 1937 cars waited for the show to shed their seven veils. In fact, before the New York show this year automobile editors were able to let down their hair and relax. For they had been everyplace, eaten all of the auto makers' food and seen everything for 1937. The New York show is now only a secondary headache with them, instead of a primary one.

* * * *

Chevrolet asked its proud father, General Motors, for $26,000,000. And what is more important, Chevrolet got it. That's for being such a good boy in 1936. "Chevy's" new allowance was used for retooling, new machinery, and rearranging the plants and assembly lines for production of the 1937 models.

The money was spent principally at plants in Detroit, Flint, Saginaw, Muncie, Indianapolis, and Bay City. "Chevy" is shooting at a mark of 1,200,000 units for 1937.

* * * *

The next time your customers beef about oil consumption, you might rush into the station, rummage through the issues of NATIONAL PETROLEUM NEWS until you come to this page. Then, if your customer is still waiting, you might tell him that oil consumption isn't so much a matter of oil brands as it is car speeds. Then comes the grand climax. You show him the following chart which gives the results of test runs made by General Motors on their 1936 cars:

| Car Speed Miles Per Hour | Motor Oil Consumption Miles Per Quart |
|---|---|
| 30 | 812 |
| 35 | 818 |
| 40 | 825 |
| 45 | 706 |
| 50 | 594 |
| 55 | 425 |
| 60 | 256 |
| 65 | 194 |
| 70 | 125 |

Of course, between 30 and 40 m.p.h. the oil consumption decreases, so you don't mention that. But starting at 40 m.p.h., and on up to 70 ——— Wheeeeee!

* * * *

Is it news to you:

THAT mileage is increasing faster than accidents? Car mileage in the first seven months of 1936 gained 12 billion miles over the comparative months of 1935, while traffic deaths declined 2 per cent.

THAT, from 1926 to 1935, states with standard driver's license laws and administration showed a decline of 21 per cent in highway deaths, while other groups of states showed increases from 4 to 33 per cent.

THAT the U. S. was shown to rank fifth in terms of fatalities per 10,000 vehicles, with New Zealand, Union of South Africa, Canada, and Denmark holding higher records.

THAT traffic deaths for each 10 million gallons of gasoline consumed in the U. S. the first seven months of 1936 stood at 17.4, as compared with 19.4 for the same period in 1935.

THAT one car manufacturer reports an unusually heavy demand this year for safe driving accessories, such as fog lights, swinging and blinking stop lights, and special rear view mirrors.

THAT you don't really appreciate a safe driver until a careless one hits you.

# Petroleum Technology

Current Technical Developments Edited for All in the Oil Industry

## The Technologists' Forum

*By* ARCH L. FOSTER, Technical Editor

● Science is coming into its own in the petroleum industry. Coming at a rate so fast that the technical man finds it hard to keep abreast of developments and of necessity must specialize more and more in restricted fields. To keep intelligently informed on developments even in his own filed, to say nothing of those in other branches of the oil industry, he must depend more and more on published data, on papers and articles, letters, patents, on meetings and on contacts with other technologists, leaders in their own fields. The technologist's first step in tackling a new problem for investigation is to review the literature on the subject, to avoid following trails which have been blazed before him, to eliminate wasted effort.

For this specific reason, and others too numerous to warrant space here, the publisher's field is an important and a responsible one. He cannot confuse technical *news* with technical *history,* and keep faith with his readers. If he failed to carry his part of the load of keeping technologists informed of new technical advances, of making available the useful data regarding these advances, it could handicap the industry seriously. His faithful and aggressive covering of his field fulfills a most important function, and gives him reason for being.

Realizing all this, the publishers therefore expect to make this section of the New NATIONAL PETROLEUM NEWS a clearinghouse for the most valuable and most recent technical developments obtainable for publication. Very seldom is the whole story of a technical achievement told in print. For obvious reasons some of the essence of the technologists' findings are locked in company records and in the minds of the patient researchers who engineer the work. But so far as information is publishable, we shall present the best chemical engineering data available for the industry.

No industry can progress faster than does its technology. The chemist, the engineer, the metallurgist form the Great Triumvirate which in the last analysis controls the destinies of any industry. And science will not be hurried beyond a given pace. The oil industry progressed at a fair speed for decades only because its production of a tremendous amount of raw material was opportune; with the automotive development, its field was virgin and ever widening. The application of petroleum to the uses of the race at first was highly inefficient.

Even at the present advanced scientific stage of the oil industry, a greater percentage of petroleum is used in essentially its raw state, without aid of any art but fire, than is the raw material of any industry, possibly excluding coal. Thomas Midgley and T. A. Boyd, by their studies on detonation and the means for preventing it, have done more for the scientific advancement of the petroleum industry than did the first 100,000 men who

## IPT Contents

**Butane Machines Increase Cooling, Improve Plant Efficiency** ..... 72

How the use of a waste material is adapted to increase the efficiency of operating a natural gasoline plant.

**Pacemaker in Nowata Projects Has Passed Production Peak** ..... 77

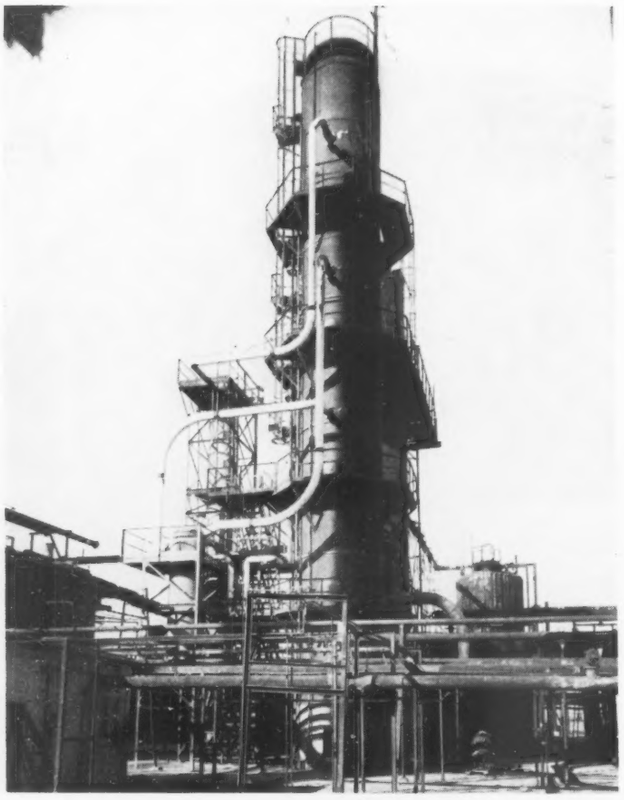
A discussion of the practice of water flooding in Nowata, methods employed, troubles encountered, and the expectancy of this method in this field.

**The Patent Structure on Pour Point Inhibitors** ..... 83

List and abstracts of patents covering pour point inhibitors and depressants. Types of materials are reviewed by a patent authority.

**Furnace Design Stops Overheating, Reduces Building Costs** ..... 91

The types of furnaces discussed are the result of several years of study and experiment in how to eliminate hot spots and to increase heat input rates and heating efficiency.



helped bring the industry into being. They led us the first steps on the trail to more efficient utilization of light fuels; we are still tracing out the boundaries of this field, and know little of what the area contains.

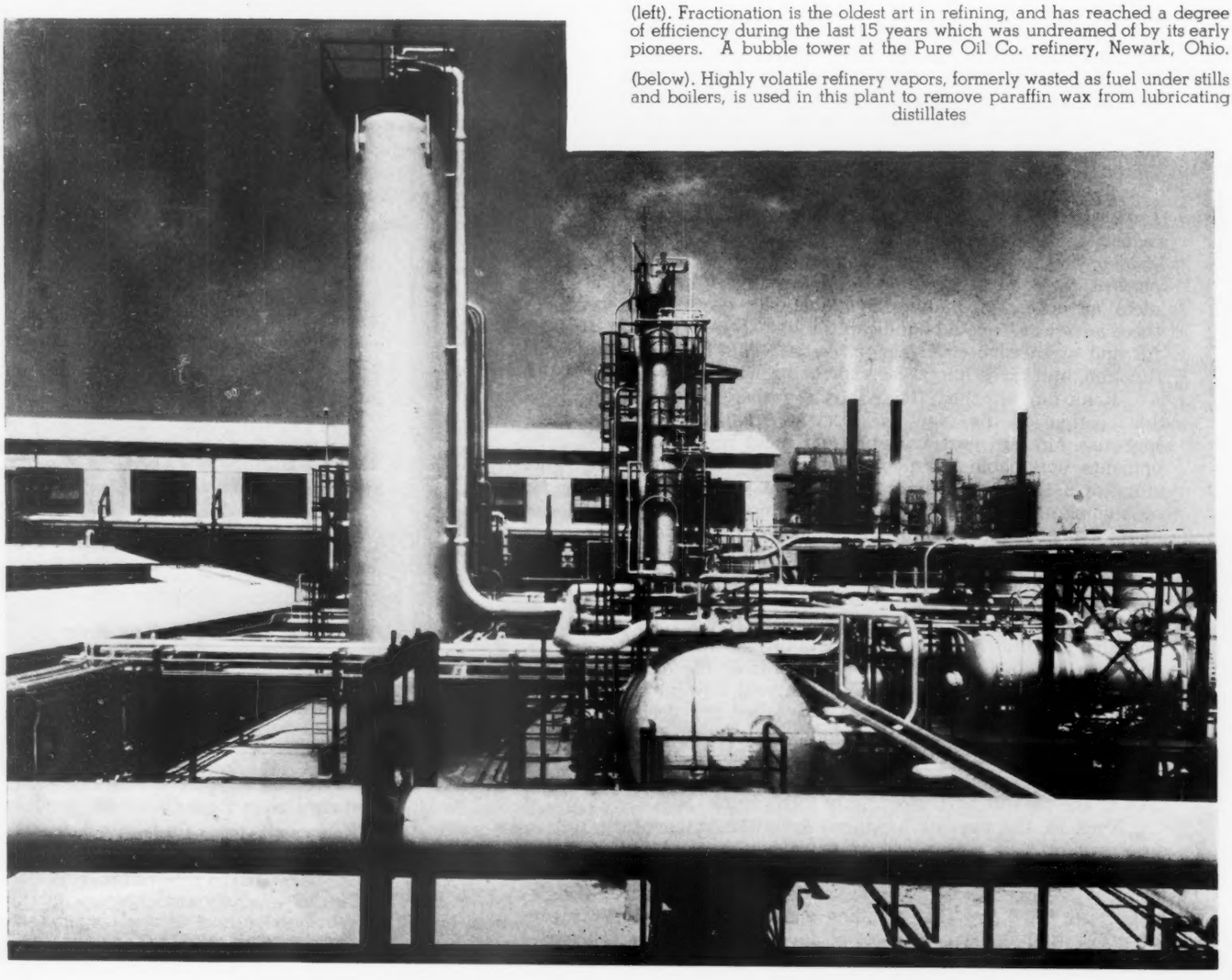
A hasty view of the last few years' discoveries shows plenty of hope for the future. We are training the hunting dogs of geophysics and exploration; we are learning to break up molecules, and to build them up to our purpose. We are learning how to separate hydrocarbon families with solvents, to use the catalyst and the chemical to produce unbelievable and unheard-of-materials. We make resins and road oils, alcohols and aldehydes and aromatics, cosmetics and candles, and synthetic products for a thousand uses. And we have only started.

The refinery of the future will be a chemical factory.The chemists and the engineers are the handlers of an infinitely more useful Lamp than Alladin's prize gift. However excellent the business management of the industry may be it progresses only as it gives these technical pioneers free rein and intelligent support.

In these pages we will keep pace with these developments, to help the technologist keep abreast of new findings. This section of the new NATIONAL PETROLEUM NEWS will be a storehouse of *new* technical information—a still greater storehouse than in the past—of the best processes, equipment and methods, developed by the industry's chemical engineering leaders. No small task this, but a responsibility which the publishers of NATIONAL PETROLEUM NEWS fully appreciate through 28 years of service to the oil industry in bringing it its news.

(left). Fractionation is the oldest art in refining, and has reached a degree of efficiency during the last 15 years which was undreamed of by its early pioneers. A bubble tower at the Pure Oil Co. refinery, Newark, Ohio.

(below). Highly volatile refinery vapors, formerly wasted as fuel under stills and boilers, is used in this plant to remove paraffin wax from lubricating distillates



# *Graveyard gasoline*

Don't let your gallonage follow ancient cars to the graveyard—it's the old cars that furnish your market if you make straight-run gasoline

When they go to the scrap heap the skimming plant refiner's market goes with them

And how they are going

Last year 2,325,000 old cars went to the motor graveyard and 3,612,000 new ones came out on the road

A gain of 1,287,000 cars, you say—increased consumption?

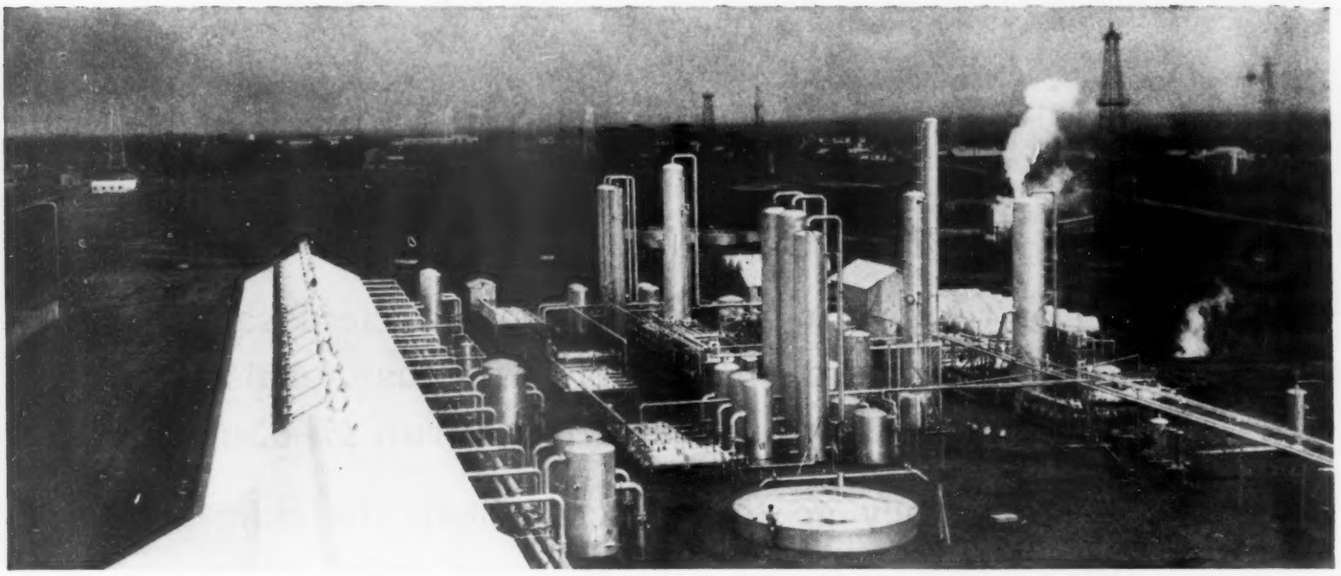
Yes, but it won't do you any good unless you have mighty good anti-knock gasoline to sell

Dubbscracking is the way to make the best kind of gasoline for the new cars—and the old ones, too

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Aluminum paint has been used lavishly in this Carter Oil Co. natural gasoline plant at Fitts Pool, Okla. This paint has the virtue also of reducing temperatures of equipment and operations, a point which is stressed in the plant's design



# "BUTANE MACHINES"

## Increase Cooling, Improve Plant Ef

AS DRILLING progressed in the Fitts Pool, Pontotoc County, Okla., with field extension wells completed, as well as those on the inside, larger volumes of gas were made available for processing to recover the natural gasoline. Carter Oil Co. has built a plant in this pool, which at the time of completion was considered sufficiently large to take care of all gas coming from company wells, as well as those under contract for many months to come.

However, as the larger volumes of gas were being produced, the equipment was found to be about half the capacity necessary. Increases in the volume of gas were expected from the field and the original plant was laid out accordingly. Sufficient room was allowed for additions to the engine room as well as to the absorption and distillation equipment.

The first unit was built by using equipment taken from other gasoline plants, in Seminole and other fields, which had been dismantled, due to the decrease in casinghead gas in those fields. The first battery of compressors was thoroughly reconditioned, replacing the ordinary 16-inch power cylinders with 17 inch, and equipping them with fuel injectors, which increased the horsepower from 165 to 230.

The new cylinders were inverted, which permits the extension of the exhaust pipes through the roof instead of through the wall and into mufflers. This practice, of inverting power cylinders is being generally practiced, and results in a considerable saving, by eliminating troublesome corrosion of exhaust pipes and mufflers. Nineteen engines were installed, four of which are utilized for purposes other than bringing the gas in from the field gathering lines and compressing it to the required pressure for efficient absorption.

The new absorption and distillation unit erected in the spring of 1936 consists of new material throughout. The two new absorbers are 60 inches x 41 feet 4 inches, built for a working pressure of 100 pounds gauge at 200 F. The distillation equipment consists of a combination column, 60 inches x 47 feet 10 inches built for a working pressure of 75 pounds at 400 F., with its complement of heat exchangers, preheaters and circulating pumps.

The gas coming through the field gathering lines varies considerably in pressure, running from a slight vacuum to several pounds pressure, depending altogether upon the number of wells being flowed in the field, and the system used by the different producing companies. When the allowable oil from any well, or group of wells, may be obtained in a relatively short time, as during the daylight hours, there is a much larger amount of gas available which must be processed, than when the majority of the field men are not working at night. To operate a gasoline plant under these conditions, it is essential that all the equipment be in good condition. To spread the gas evenly over the full operating

BY J. C. ALBRIGHT

PLENTY of cooling capacity, effective to a relatively low temperature, controls the efficiency of a gasoline plant's operation, especially in summer.

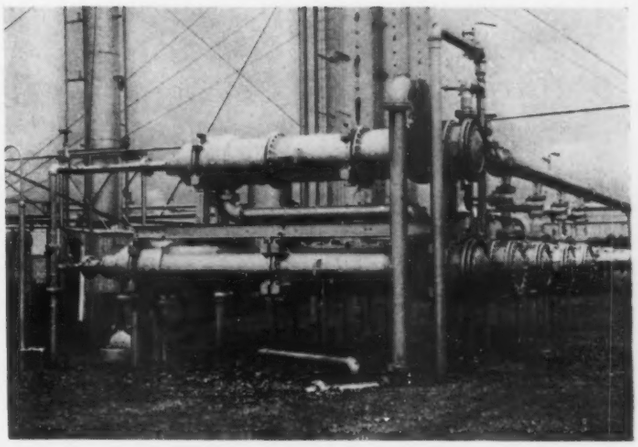
Use of butane in supercooling absorption oil and other plant liquids, and methods for reducing corrosion of piping, etc., are explained in this very practical article.

day requires considerable tact when working up a flowing schedule for the producers in the field to follow.

The 15 engines used to handle the gas from the field compress an average of about 55,000,000 cubic feet daily to an average of approximately 30 pounds on the discharge header. These engines have a common intake system and discharge all the gas into a single header, which leads to both absorption plants. The gas is apportioned to each unit by setting the absorber back pressure regulator so that each plant will handle the amount desired by the operator. The older plant, which was constructed of used material, handles about 35,000,000 cubic feet, while the new plant is given about 20,000,000 cubic feet, daily. The gas coolers, oil coolers, preheaters and exchangers are all of the same general type of shell and tube equipment manufactured by Braun, in both plants.

The intake and discharge headers at the engine room were mounted upon concrete piers, a sufficient distance above the grade level that soil corrosion is eliminated. By having these headers exposed, maintenance is much less, and repairs may be made without excavation. Control gates in the lines are prevented from rusting and operate much more efficiently when they are always dry and not touching the soil. Pipe connections, individual engine lines, were attached to the headers, both intake and discharge lines being welded, which eliminates leaking joints.

Control gates for the gas cylinders were placed as near the headers as possible, outside the building, so that, if stem leaks develop, the gas will be dissipated into the atmosphere



Absorption oil is cooled in this cooler, using butane as refrigerant

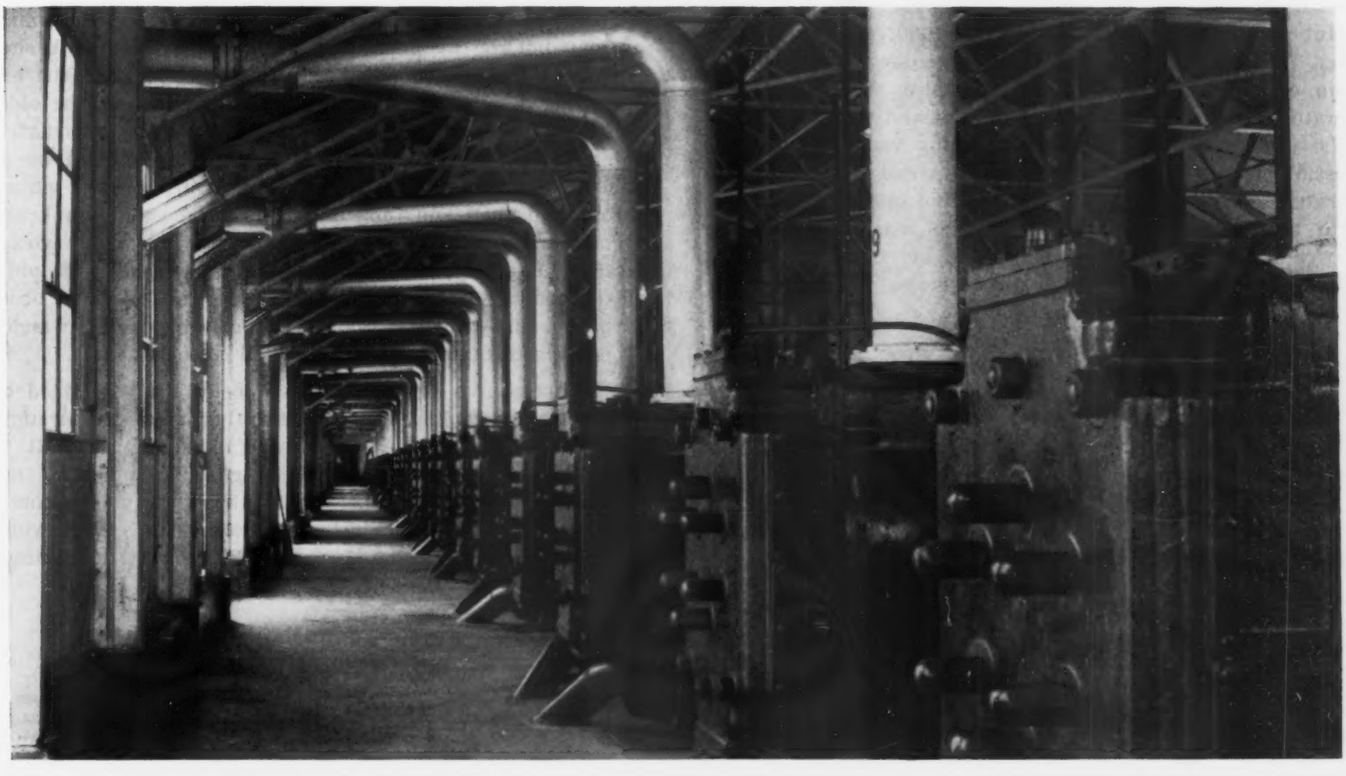
## Efficiency

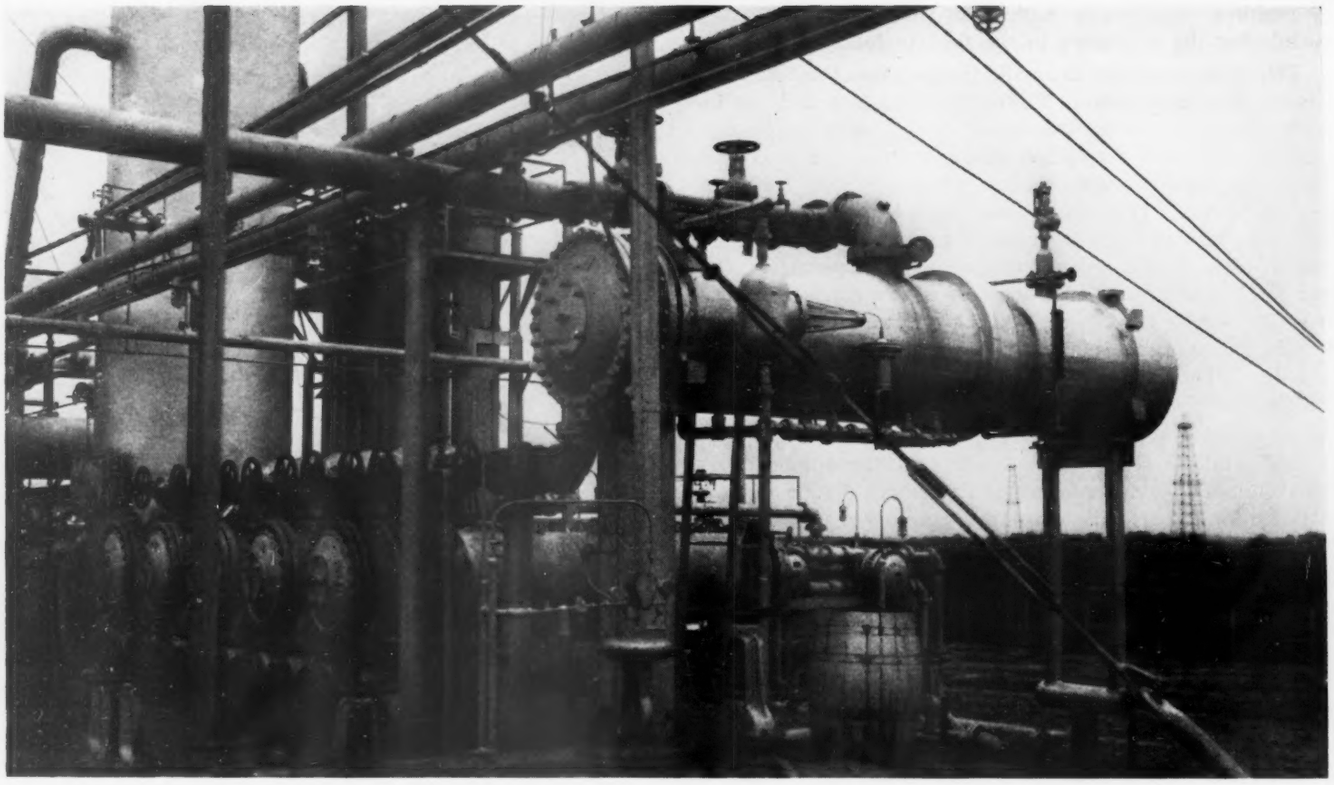
where explosions are less likely to occur. To facilitate extending the engine room, both headers were completed with large gate valves attached to the east end, with flanges, so any additional improvements may be made without disturbing the units now in operation.

The intake headers were built in two sections, the first, attached to the header on the outside of the building, a single pipe from the header to a point well inside the building. The second section was made as a unit by welding two sections of piping in the form of a "Y," so that both compressor cylinders on the individual engine may take gas through the common intake line. The two completed sections are joined together inside the building with a gasketed flange, each side of which is welded to its individual section. Because of the construction of compressor cylinders, which are equipped with discharge stools on the lower side, the discharge lines are laid beneath the concrete floor, in conduits, to rise at an angle of 45° where they are connected to the discharge header on the piers.

The split stream of gas from the discharge of the

"Y" manifolding system used on compressor cylinders of the reconditioned, Type 10 Cooper-Bessemer compressors, discussed in detail in the text of this article





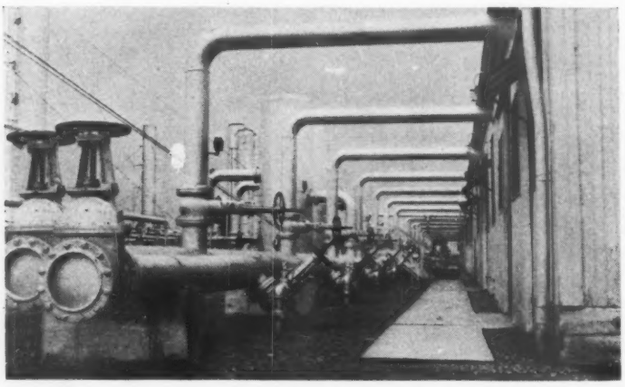
Butane condensers are used in the cooling system for reducing the temperature of the absorption oil below summer wet bulb air temperatures

compressors, after leaving the header, passes through coolers, each plant having its individual sections, where the temperature is reduced to that required for efficient absorption. The movement of the gas through the absorbers is a conventional flow, entering, after pre-scrubbing, the lower section of the columns and flowing upward. It is scrubbed again after leaving the top of the absorbers, passing through individual tanks to remove the entrained oil. if any, before entering the residue lines for returning to the field and other points of ultimate consumption.

Goulds high speed centrifugal pumps, powered by enclosed fan motors, handle the absorption oil. The older plant requires less absorption oil per 1000 cubic feet of gas than the new one, because of supplementary cooling of the lean oil. When it is possible to secure average oil temperatures of about 80° F. with the usual type of shell and tube coolers by the use of the cooling water alone, it is possible with the supplementary equipment to obtain temperatures as low as 65° F. with normal operation. To obtain these low temperatures, "butane machines" as they are called in the plant, were installed by converting one of the 230 hp. Cooper-Bessemer compressors with small-bore cylinders to handle butane vapors, which are recirculated as a refrigerant.

The refrigeration system employs a series of gas coolers, engines, accumulator drums, supply tanks, expansion valves, oil cooler section and sufficient piping to make the necessary connections. The system requires about 250 gallons of liquid butane as an operating charge, which may, or may not, be manufactured in the Fitts Plant. A shell and tube unit was mounted upon steel supports at the end of the usual oil coolers at the distillation unit of the older plant, so that the cooled oil leaving these coolers immediately enters the tubes of this supplementary cooler. Butane is handled by the one compressor, condensing it as it passes through to shell and tube units, with the supply tank and accumulator drum located near the supplementary cooler section. Liquefied butane is expanded in the shell as rapidly as the compressor can handle the vaporized liquid, in order to obtain the lowest possible temperature on the denuded oil passing through the distillation oil coolers.

Temperatures averaging 15° F. below that obtained by the usual methods have been consistently maintained throughout the past summer when it was extremely difficult to lower the temperature of oil, gas or gasoline vapors to that necessary for efficient operation. Under favorable conditions, this "butane machine" has lowered the temperature of the denuded oil as much as 25° F. below that obtained



Trimness and systematic arrangement mark the layout of the best types of natural gasoline plants, exemplified by this line of suction and discharge headers in the Carter plant at Fitts Pool

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The nearly 6,000,000 circulation of The American Weekly is *double* that of any other magazine—by far the world's mightiest selling force. And this sales-building support is given stations by refiners who use its advertising columns to reach the world's richest market!

### *What The American Weekly is*

The American Weekly is the largest magazine in the world. It is distributed through the great Hearst Sunday Newspapers. In 627 of America's 995 towns and cities of 10,000 population and over, The American Weekly concentrates 67% of its circulation.

**In each of 174 cities, it reaches better than one out of every two families**
**In 144 more cities, 40 to 50% of the families**
**In an additional 134 cities, 30 to 40%**
**In another 175 cities, 20 to 30%**

. . . and, in addition, more than 2,000,000 families in thousands of other communities, large and small, regularly buy and read The American Weekly.

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NEAREST COMPETITOR CIRCULATION

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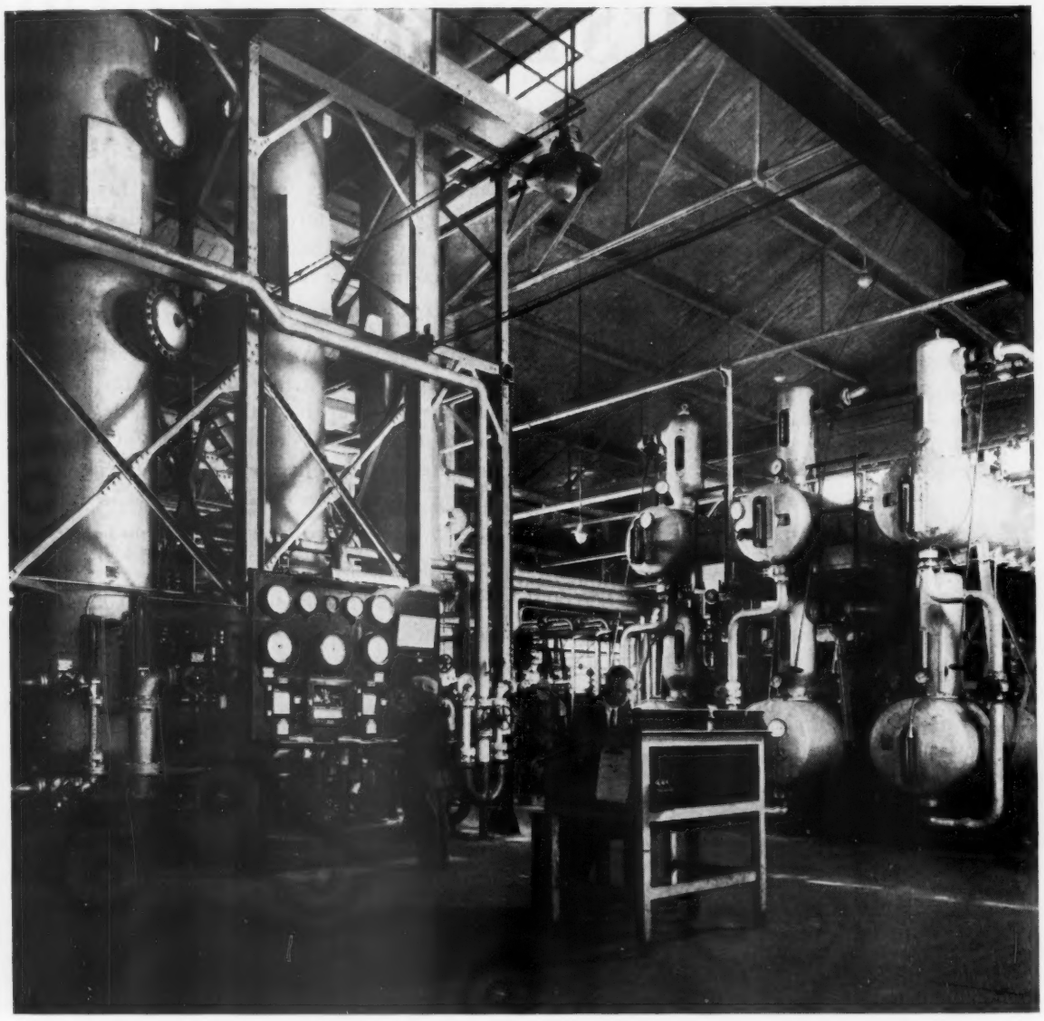
while it was passing through the usual bank of coolers when ordinary cooling water was relied upon.

An inspection of the operating conditions of both the old and new units shows the following:

| Temperatures | New Plant | Old Plant |
|---|---|---|
| Water leaving cooling tower | 79° F. | 74° F. |
| Water entering cooling tower | 90° F. | 86° F. |
| Water leaving oil coolers | 112° F. | 115° F. |
| Water leaving gas coolers | 80° F. | 80° F. |
| Water leaving gasoline condensers | 92° F. | 89° F. |
| Gasoline leaving condensers | 82° F. | 76° F. |
| Hot oil heat exchangers | 330° F. | 327° F. |
| Hot oil from heat exchangers | 164° F. | 154° F. |
| Cold oil from heat exchangers | 262° F. | 260° F. |
| Cold oil heat exchangers | 132° F. | 114° F. |
| Oil leaving preheaters | 339° F. | 339° F. |
| Oil leaving absorbers | 88° F. | 86° F. |
| Oil entering absorbers | 80° F. | 63° F. |
| Gas leaving absorbers | 82° F. | 70° F. |
| Gas entering absorbers | 94° F. | 92° F. |
| Knockout box—Top of still | 184° F. | 192° F. |
| Atmosphere, Dry bulb | 72° F. [ as of | |
| Atmosphere, Wet bulb | 66° F. [ Oct. 6, 1936 ] | |
| **Pressures** | **New Plant** | **Old Plant** |
| Absorber pressure | 31 lbs. | 29½ lbs. |
| Still pressure | 42 lbs. | 42 lbs. |
| Steam, at still | 126 lbs. | 126 lbs. |
| Gasoline condensers | 40 lbs. | 40 lbs. |
| Recompressor, Tail gas absorber | 25 lbs. | 25 lbs. |
| **Gravities** | **New Plant** | **Old Plant** |
| Oil leaving absorbers | 43.0° API | 43.3° API |
| Oil entering absorbers | 40.9° API | 41.3° API |
| Increase in passing through absorbers | 2.1° API | 2.0° API |
| Vapor pressure, denuded oil | 5 mm. @ 80° F. | 6 mm. @ 80° F. |

Due to the temperature obtained on the lean oil as it passed through the supplementary cooler, called the "butane machine," a temperature 3° F. below wet bulb, the oil necessary for adequate stripping of the gas used in the plant with the supplementary cooler was only 13.2 gallons per thousand cubic feet of gas passed. In the plant which depended upon water for cooling, 24.4 gallons of oil per thousand cubic feet were required. The oil circulated during the day, when the observations were made and data secured, Oct. 6, 1936, oil in the amount of 491,328 gallons was pumped through the absorbers of the older unit, and 466,762 gallons were circulated through the absorbers of the new plant. The older plant processed 35,546,000 cubic feet of gas, and the new plant handled 20,100,000 cubic feet, from which, a total of approximately 36,000 gallons of 26/70 natural gasoline were produced.

Raw gasoline from the accumulator drums at both plants is pumped into a single stabilizer column, 36 inches x 60 feet under a processing pressure of 225 pounds, gauge. The raw, unstabilized products had a gravity of 94.5° API before stabilizing, and a gravity of 89.6° API after being stripped of the undesirable lighter fractions. Butane fractions are not present in sufficient volume when manufacturing a 26/70 gasoline to accumulate an adequate supply of that hydrocarbon for use in the "butane machine," make-up volume being shipped by truck from the company's Grisso plant north of Seminole. When a product having a grade of 14 or 18 pounds is turned out, sufficient fractionation may be obtained to maintain the system in butane for cooling.



Complex simplicity is characteristic of the modern solvent extraction plant, as indicated in this sulfur dioxide-benzol unit of Union Oil Co. in its Oleum, Calif. refinery

Tank battery on the Big Creek property

# PACEMAKER

# In Nowata Flood Projects Has Passed Production Peak

*Tulsa News Bureau*

RUMOR and speculation have attended the operation of Oklahoma's outstanding application of the water flooding method.

Forest Producing Co., subsidiary of Forest Oil Corp., Bradford, Pa., while not the first to begin secondary recovery of oil in the Nowata district by injecting water under pressure into the producing sand, was the first to apply the intensive methods used in the Bradford field where the Forest company has for years been a first-rank operator.

Because this company did apply the intensive, quick clean-up of oil methods, its work has been a topic of conversation throughout the Mid-Continent. Heretofore, the company has permitted the guessing to go on. The guesses usually were exaggerations of the facts.

This article is the first statement of the No. 1 flooding project of the Forest company and is made with the authorization of the company. Figures on production and some other phases of the operation were taken by the writer from the records of the company, by permission of Forest D. Dorn, president.

Statements made herein bring the records down to and including Oct. 31, 1936.

Another project of the same company, also counted upon to yield much information, is currently out of the running. The company had planned to flow the production—No. 1 is a pumping operation—but a large problem has developed. For some reason not definitely determined, the water has broken through into a number of oil wells. This may be due to highly permeable streaks in the sand through which the water has traveled rapidly. Whatever the reason, the effectiveness of the flood on this property is destroyed and until a remedy for this can be worked out—if a remedy can be found—this flood project is stopped. The water plant is at this time shut down and experimental work is being carried on.

Production by flooding at the end of October on the 160 acres comprising the first flood project of this company totalled 523,872.88 barrels.

Recovery per acre at the end of October had averaged 3,274.21 barrels.

The peak has been passed on this property and the decline has set in. First production was taken in March, 1936, after all water intake wells had been completed and water had been injected into the sand over a period extensive enough to build up pressure. The March production was negligible and first substantial results were had in April. Peak production came in August, following which the decline began. Daily average production by months has been as follows:

| Month | Barrels Daily |
|---|---|
| March | 19.97 |
| April | 488.77 |
| May | 1727.88 |
| June | 2841.41 |
| July | 3188.49 |
| August | 3258.76 |
| September | 3005.33 |
| October | 2473.79 |

Peak day was in August and was a little more than 3400

Wells were drilled just where the measurements showed they should be to keep the pattern exact. This one, on a hillside, has a rock foundation for the pump jack

barrels in one 24-hour period.

Production on Oct. 31 was 2431.44 barrels.

The outlook is for further decline, of course, but at what rate is not at this time predictable. The company's projection of the production curve results in expectancy of 5,000 barrels per acre final recovery.

In getting out the half million plus barrels of oil the company put in 4,443,777 barrels of water—roughly 8.5 barrels of water to each barrel of oil. This proportion will not be maintained, of course. The input of water currently is roughly five to each barrel of oil taken out. But the proportion of water to oil will be high up to the time the final economic barrel of oil is produced.

Water is also coming out. Current rate of production as October closed was 3,300 barrels daily. Water was thus exceeding the daily oil production.

Discussion in this article is limited to the facts concerning the No. 1, or Big Creek, flood project of the Forest company. Other flooding operations are under way by the Forest and other companies but none has achieved the result that has the one herein described. The Forest company chose as its first project the acreage which it believed to be the best of its extensive holdings in the area. It applied intensive methods, as it has been accustomed to do in its Bradford operations. The job was done in the best way possible and in certain particulars more money was spent than would be on similar work later. The high development costs—about $1650 per acre—were incurred deliberately. Said Forest D. Dorn, president of the company:

"We did not want to look back on our job and say, 'Well, if we had just not skimped on this or that, we might have had better results.' We thought that while we were finding out what to do in a new country, we should make every part of the first lesson as complete as we could."

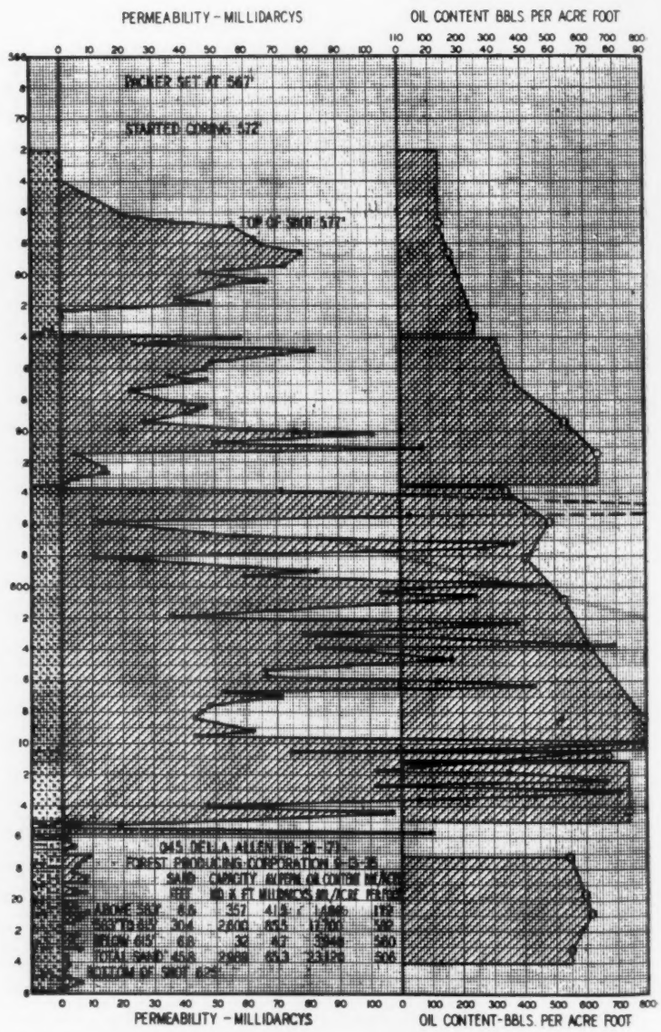
The Nowata district, embracing parts of Nowata and Rogers counties, is in northeastern Oklahoma. It was once the principal oil territory of the state. Development began in a serious way in 1904. The various pools were drilled intensively, as this is shallow production. Total producing acreage is upward of 85,000 acres in the two counties. A considerable part of this is considered by authorities to be not worth flooding. The Bartlesville sand is the pay horizon and it varies greatly in saturation, thickness and in other factors that are considered from a flooding standpoint.

The area as a whole is entering upon its fourth recovery stage. The period of natural production and of high daily recoveries by pumping was succeeded by widespread application of vacuum. In this second period, natural gasoline plants flourished. They passed when operators turned to repressuring with air. Now, flooding is the vogue, although there are numerous properties still being operated with air.

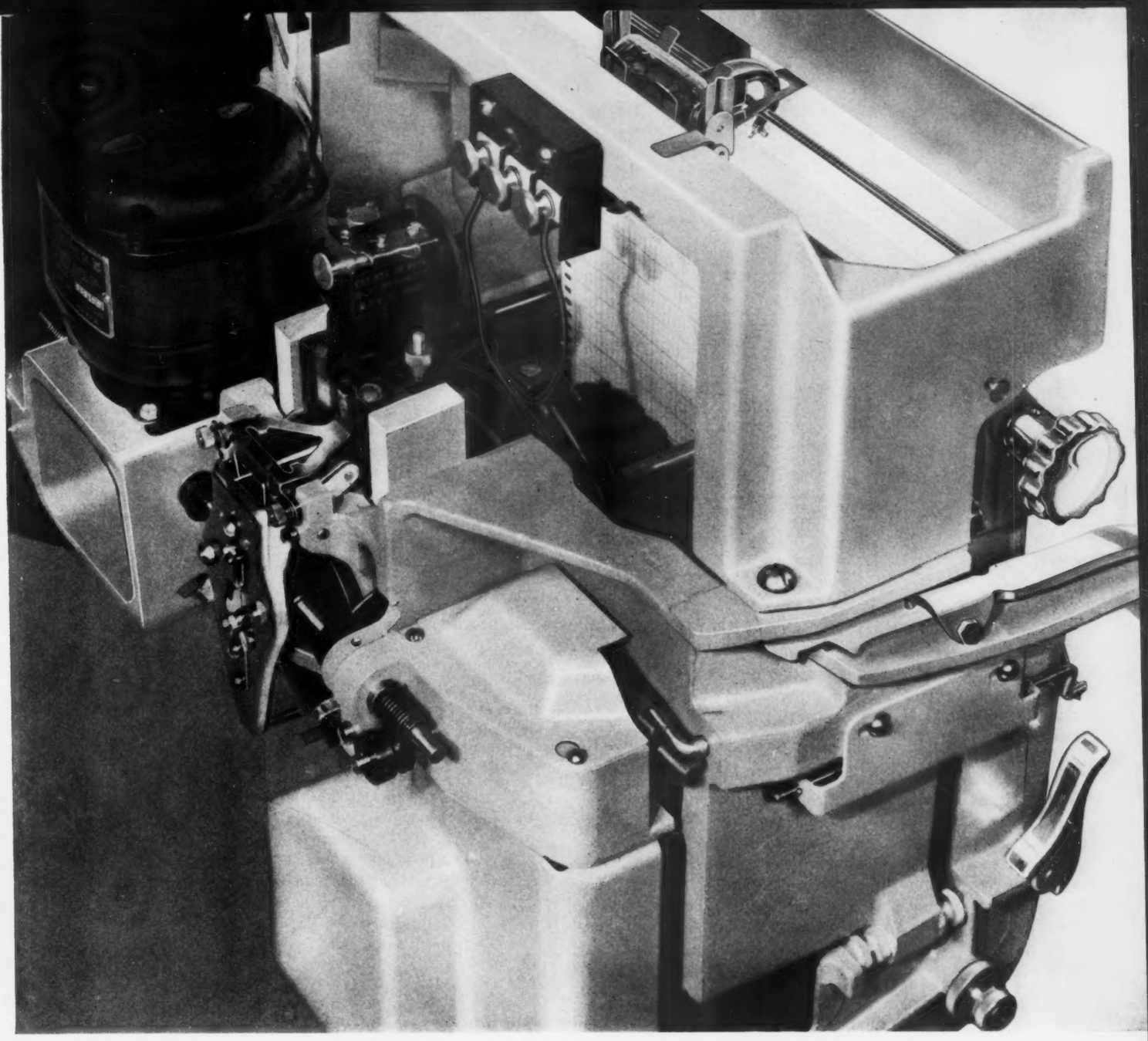
Reliable figures on production of oil under the several conditions are lacking. In the early stages of development little attention was paid to such compilations and except for scattered records on individual properties, there is no index of past performance. Operators who plan to flood will rely upon cores as indication of possible recovery.

The No. 1 project of the Forest company is the northwest quarter section, or 160 acres, of 18-26n-17e, Nowata county, northeast of the town of Nowata. At the time the company acquired the property from the Warner-Caldwell Oil Co. there were 40 producing wells and the average total production was 85 barrels daily. The property had been produced under vacuum for some years and then repressured with air.

Work was begun on July 10, 1935 when the first of the water intake wells was started. As is the custom in the Bradford district, all water wells were completed before drilling of oil wells was begun. The water well part of the property was complefed in December. Water started going into the sand on 80 acres in October. Oil well drilling was begun in


PERMEABILITY - MILLIDARCYS
OIL CONTENT BBLS PER ACRE FOOT
PACKER SET AT 567'
STARTED CORING 572'
TOP OF SHOT 577'
PERMEABILITY - MILLIDARCYS
OIL CONTENT-BBLS. PER ACRE FOOT

Crofile based on core, representative of medium condition found in Big Preek flood project of Forest Producing Corp., Nowata district. Note certain portions of sand are highly permeable; average of 63 millidarcies on cores taken on this property is considerably higher than in the Bradford district



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Input wells are equipped with meters enclosed in boxes filled with sawdust to prevent freezing. Readings are taken without removing the top of the box

February and first production was taken late in March, 1936. The last of the oil wells was finished in May.

The interval between introduction of water into the sand and the start of production was sufficient to establish pressure which gave results soon after the oil well drilling program was completed.

Preliminary to the start of drilling, eight cores were taken and analyzed. Locations were selected for these so as to give a good average of sand conditions over the 160 acres. Depth of wells on the Big Creek project ranges from 450 to 625 feet according to elevation at the surface. Sand thicknesses throughout the field, according to the Oklahoma Geological Survey* range from 10 to 30 feet with occasional thicknesses of as much as 50 feet. The average on the Big Creek property of the Forest company is 35 feet of good sand, well saturated, which is unusually good for this general area. Shale breaks, found in many parts of the Nowata-Rogers district, are not present in the Big Creek property which the Forest chose for its first flood operation.

The word "good" relating to the 35-foot sand average thickness of the Big Creek project should be underscored. Actual thicknesses varied from this figure and generally were several feet more than 35 feet. But that is the average of pay from which most of the recovery is coming.

Average porosity of five samples analyzed is 19.8 per cent and oil saturation 36.8 per cent.

The important questions in flooding, obviously, are how much oil is in the sand and how much of it can be obtained? The figures on the district or on any other area show a huge volume of oil still in the sand. This is sometimes spoken of as the reserve. Only that portion which can be recovered can be called reserve.

What will be recovered in Mid-Continent fields is, of course, unknown. There is little history on which to base calculations. In the Bradford field the expectation ordinarily is that 30 to 40 per cent of the oil in place when flooding starts will be recovered. The higher figure probably applies in a majority of cases.

Results of three core analyses on the Big Creek flood project, chosen as representative of the poorer, the medium and the good spots, show quite a range. An indicated oil content of 17,240 barrels per acre was revealed by analysis of one of the poorer cores. Sand thickness was 43.3 feet; thus, the content was 398 barrels per acre foot.

*Oil and Gas in Oklahoma, Bull. 40, Vol. 3, page 361.

The medium quality core, profile of which is reproduced herewith, showed 45.8 feet of sand and indicated oil content of 23,120 barrels or 506 barrels per acre foot.

The best core had 59 feet of sand, 28,863 barrels per acre and 504 barrels per acre foot.

To make some rather violent assumptions, if we take the average of the three cores, the answer is 469 barrels per acre foot and if the rough calculation be carried further and applied to the 35 feet which is said to be the average "good" sand over the Big Creek property, there will be an indicated oil content of 16,415 barrels. In defense of this sort of figuring, the profile here reproduced shows enough sand of either very high or very low permeability to warrant exclusion of several feet of sand from consideration. Oil in those portions is in part not recoverable and might just as well not be there.

Should the Bradford factor of 40 per cent recovery be realized, on the basis of the foregoing assumptions the recovery should be 6,566 barrels per acre. But, as mentioned earlier, the Forest Producing Co. now expects an average of 5,000 barrels per acre from the Big Creek property, which is nearer 30 per cent recovery.

In this development, the company followed its Bradford practice of spacing on definite pattern which meant that few of the existing wells could be used. There were 40 wells on the property when development was started for flooding. Of these only six were saved. Spacing of 330 feet from water well to water well and from oil well to oil well is the practice the company is following. Thus, on this 160 acres, there are nine rows of water input wells with nine to the row, or 81, and eight rows of eight oil wells, or 64—a total of 145 wells. The pattern is the "five-spot," in which each oil well is the center of a square at each of whose corners is a water well.

At the end of October the input of water was averaging 156 barrels per well, or total of 12,500 barrels plus daily. Pressures at the time were 375 pounds. The sand took water freely when flooding was started and for about six weeks pressure of 50 pounds at the plant was maintained. This was gradually increased until it reached the present figure.

Equipment used on the Big Creek project was new throughout. In articles in these columns and elsewhere, detailed descriptions of the equipment have been given and any operator who cared to know about it was free to visit the property and see for himself. At one time the company held open house to about 200 production men and engineers and full explanation was given of the mechanics of flooding and producing.

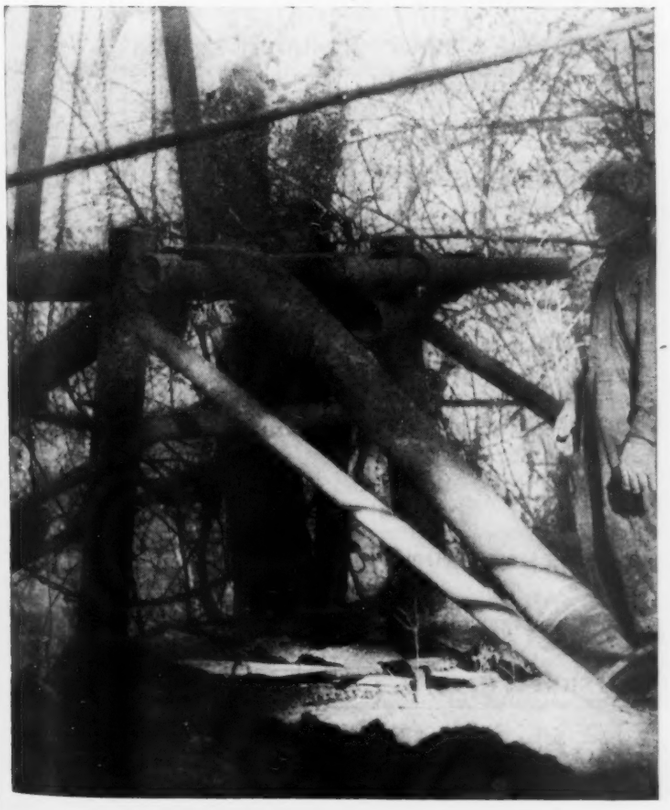
What everyone wants to know about it is how much oil will be obtained and at what cost. The figures previously set out in this article show the status to date. The final record of the Big Creek project cannot be written for some time but, as said previously, the Forest company now thinks the final recovery will be around 5,000 barrels per acre. It considers this to be about the best acreage it has.

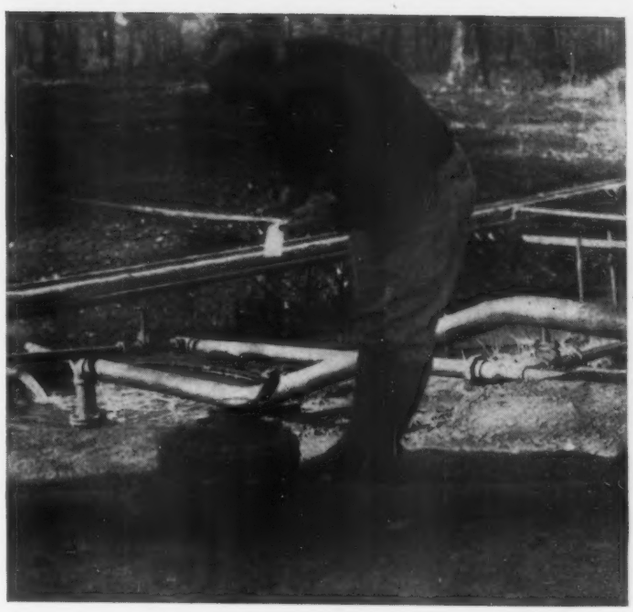
Costs on subsequent projects cannot be figured on the basis of the Big Creek development. As has been explained, the company spent $264,000 in development, or $1,650 per acre, but emphasis was on acquiring knowledge of conditions. It was kept in mind throughout that many of the expenditures would not be repeated on future development. For one instance, an experiment was made in using water from the Ordovician formation under the oil sand. This is the water which is advertised by Claremore, Okla. as "radium" water. Special preparations were made in casing water input wells and coated water lines were installed. The experiment cost quite a little money, but had to be abandoned. Water was highly corrosive to equipment and precipitation of minerals probably would have retarded the flow of water into the sand.

It is believed that salinity of the water which is being pumped with the oil is due in part to this Ordovician water.

An increase in gravity of oil has occurred with flooding. The gravity of the oil that was being pumped before flooding began was 34 to 35° A. P. I., above the average for the area, and it now averages 37.5°. Two factors are responsible for this and it is not determinable which has the greatest weight. One is the action of the flood in concentrating gas into the oil and the other is the fact that only gas-tight tankage is used. The improvement in gravity, of course, is quite important, as the oil is purchased on gravity scale price.

Pump used to lift water from Big Creek, source of the supply for flooding, is mounted on a track so that it can be raised or lowered as the level of the creek changes





Salt water produced with the oil is metered and after being cleared of oil is returned to the sand

As to costs of subsequent development in the Nowata district, some estimates have been made by the Forest company, using the bases 4,000 barrels per acre recovery and 6,000 barrels. The latter figure probably would win first prize in the district, if ever realized, for this is above the Bradford average on properties that have been exhausted through flooding. That figure is 4,000 barrels.

In Nowata district acreage purchases since the flooding stage of recovery really got under way, many of the deals have been made on the basis of over-riding royalties rather than cash purchases. The estimates here given are set up on the bases of one-eighth and one-sixth over-rides, in addition to the usual one-eighth to the landowner. The estimates are:

Recovery, 4,000 barrels per acre.

Royalties, one-eighth and one-eighth.

| | Per acre |
|---|---|
| Water cost, per barrel of oil produced ..... .08c, or | $ 320 |
| Lifting cost, 25c per barrel ..... | 1,000 |
| Development cost, 30c per barrel ..... | 1,200 |
| Total, lifting, development and water cost, .....63c, or | 2,520 |

Deducting, one-eighth to landowner and one-eighth over-ride, or 12½ cents to each (based on $1 per barrel), total deduction from working interest is 88 cents per barrel, or $3,520 per acre, leaving net to working interest, or developer, or $480 per acre.

Note: For convenience, price of $1 per barrel is used. Actual price of Nowata district oil exceeds $1 slightly, with considerable part of it falling into the $1.04 bracket.

Using the same figures as above on 4,000 barrels per acre recovery but allotting one-sixth to the over-riding royalty, the total to lifting, development, water cost, royalty and over-ride would be 92 1/6 cents per barrel, leaving a profit of 7 5/6 cents to the working interest, or $313.34 per acre.

Recovery of 6,000 barrels per acre.

Royalties, one-eighth and one-eighth.

| | Per acre |
|---|---|
| Water cost per barrel 8c, or ..... | $ 480 |
| Lifting cost 25c per barrel, or ..... | 1,500 |
| Development cost, 20c per barrel, or ..... | 1,200 |
| One-eighth royalty, 12½c per barrel ..... | 750 |
| One-eighth override, 12½c per barrel ..... | 750 |
| Total, to costs and royalties, 78c, or ..... | 4,680 |
| Profit to working interest, 22c or ..... | 1,320 |

On basis of one-sixth override, costs as above, profit to working interest would be 17 5/6 cents, or $1,070 per acre.

An improved price for oil would, of course, change the figures; that, however, is in the realm of the unknown.

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*By* **J. H. BYERS**

WITH the continually increasing importance of technical and technological development and the more and more complete coverage of refining processes by patents and patent applications, it is frequently extremely important to summarize and review the patent background and patent structure in the different fields of refining and refined products.

The accompanying article, first in a series, reviews and summarizes the present body of patents on pour point inhibitors. This subject has been of considerable interest to refiners of lubricants, and the use of these inhibitors is an important part of the present day refining process.

The information given in this article will enable the reader to obtain a comprehensive, though concise, picture of the patent situation on these inhibitors as it exists in issued patents, up to the date of writing.

Among other articles in this series are to be included surveys of patents on extreme pressure lubricants, additive agents for lubricants, solvent extraction and hydrocarbon polymerization. These articles will appear in NATIONAL PETROLEUM NEWS at intervals. The author of these articles is a thoroughly experienced patent investigator, and has access to the most recent information on these subjects.—Editor.

# The Patent Structure On Pour Point Inhibitors

RECENTLY the Patent Office has been deluged with pour point inhibitors. Since 1926 more than fifty patents on the subject have been issued, of which the majority have gone out in the past five years. Judging from the number issued to date, 1936 seems destined to break prior records.

The patent files do not explain why pour point lowering has suddenly become a very active subject of interest. But while the economic basis and scientific explanation must be sought elsewhere, the patents stand as a series of facts of social and technical importance. The object of this survey is to set out in available and condensed form a few of the patents on the subject.

Those chosen are the United States patents relating to pour point lowering proper, that is, relating to substances which are added to lubricating oils to lower the temperature at which flow characteristics are impaired, and also to heterogeneous mixtures reported to have low cold tests, in contradistinction to dewaxed or synthetic low pour point oils.

In a compilation of this type it is impossible not to include a number of references of doubtful pertinence. For example many of the patents do not unqualifiedly state that the pour point of the oil is lowered. Others refer merely to satisfactory winter lubrication, which may mean that a pour inhibiting action is present or merely that a low cold test oil has been used without interference with its normal properties, on the part of the additive substances. Also some question might be raised regarding the meaning of "constant viscosity" through a temperature range, whether the indication is or is not of low pour point. Where the matter seemed controversial the patent was included it being deemed better to err on the side of over-inclusiveness than to omit something of significance.

The older patents are particularly obscure. They are perhaps more interesting for the most part from a standpoint of recognition of the difficulty than assistance in solving the problem, although several seem to distinctly foreshadow modern developments.

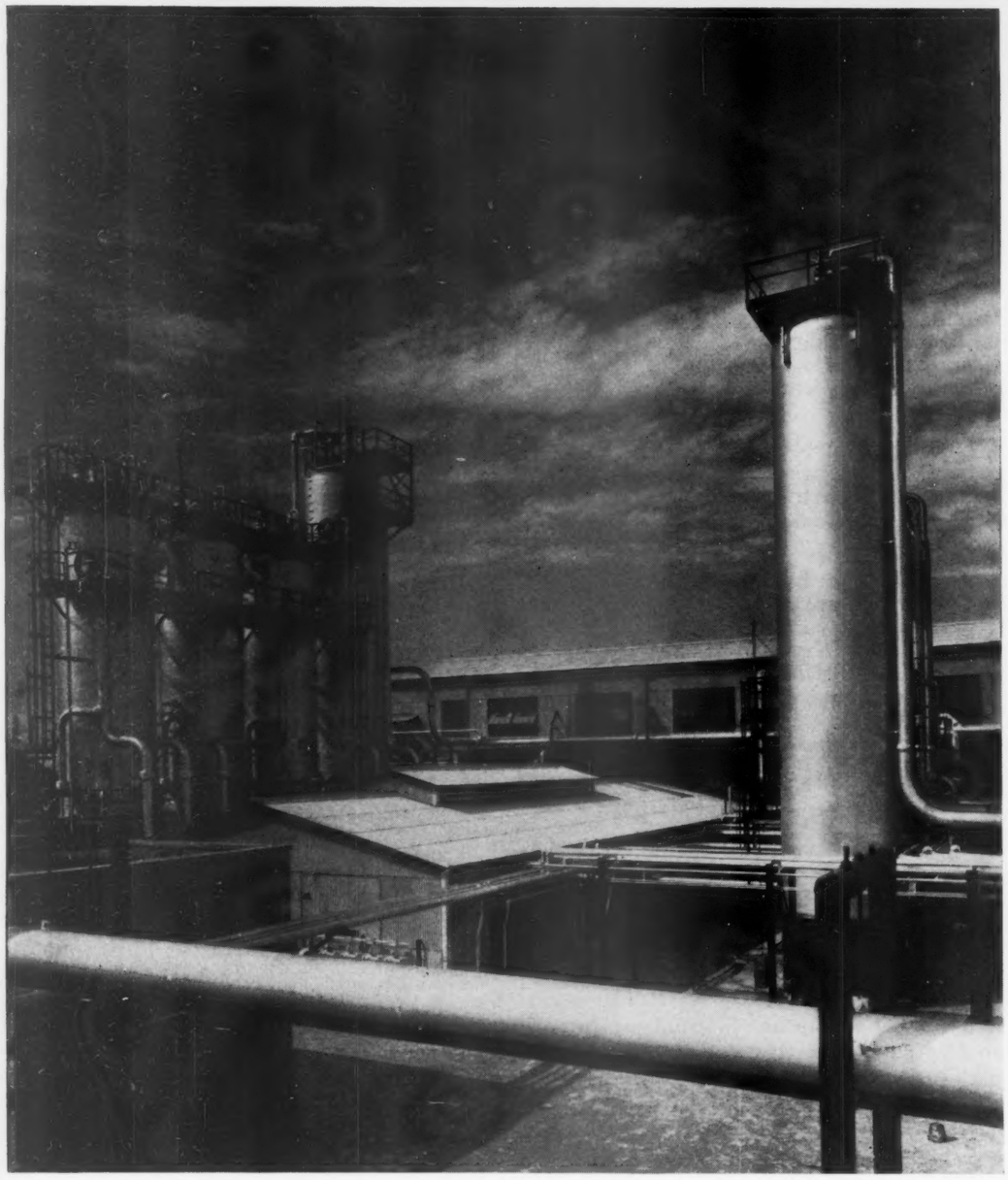
For instance, the patent to Eames and Seely shows that as early as 1867 the idea of adding a pour inhibitor to an oil was fully understood. Although the words used do not accord exactly with the newer descriptive terms, there can be no doubt about the patentees' meaning.

They state: "Our invention is mainly founded on the fact, which we have demonstrated by repeated and careful experiments, that a small quantity of caoutchouc or India rubber dissolved in any of the ordinary oils increases their fluidity at low temperatures, while at the usual summer heat the adhesiveness or body of the oil is increased."

The patent to Draper in 1880 represents another step in the same direction. The quantity of chloroform which he used could have only an insignificant viscosity reducing effect at higher temperatures. Of course many of the patents relate merely to dilution, the oil simply being thinned out at both ends of the scale.

No foreign patents and none of the publications have been included. The former are somewhat numerous, in many cases merely duplicating the United States disclosures, and the time and space necessary to compile and summarize anything like a complete list seemed disproportionate to their interest. With respect to the scientific investigations into pour inhibitors these while important require separate treatment and study.

The majority of the newer inhibitors are of the synthetic type obtained by condensation or polymerization of hydrocarbons and related substances. Paraflow, patented by Davis 1,815,022 in 1931 is a synthetic oil formed by condensation of waxy hydrocarbons with aromatic hydrocarbons. The patentee states that separation of wax from oil



The amount of steel used in building the units, such as this, which are erected each year is another reason why the steel industry is booming

to reduce the pour point renders it inferior in respect to viscosity-temperature characteristics. He therefore proposes as an alternative the adding of Paraflow which inhibits the formation of wax crystals thus imparting the pour point property without affecting the other. As little as one per cent of Paraflow has a marked effect.

Smith, patent No. 1,944,851 suppresses the formation of a wax gel in paraffin type oils by means of an agent obtained by heating petroleum oils in the presence of aluminum chloride. Maverick, 1,963,239 employs a condensation product of paraffinic and aromatic hydrocarbons to improve the fluidity of gear oils at low temperatures. MacLaren, 1,963,-917, 1,963,918, and 2,030,307 effects the synthesis of condensation products under conditions which result in an agent said to be more effective in certain heavy oils than Paraflow. Shaffer and Fasce, 1,988,753 use a preparation obtained by heating in the presence of aluminum chloride, anthracene and an Edeleanu extract. Frolich claims that the yield and potency of a product of the Paraflow type can be increased by carrying out the condensation in a series of steps rather than a single operation. Schumann, Muench and Ufer, patent No. 2,020,703, add polymerization products of vinyl ethers of unsaturated alcohols to lubricating oils, asserting that not only the setting point, but the lubricating power and viscosity index are favorably affected. Wulff and Brewers, 2,020,714 lower the setting points by adding polymerized vinyl esters of fatty acids.

Ralston, Christensen and Selby, 2,033,546 describe an improvement which consists in adding a Friedel-Crafts reaction product from a higher fatty acid chloride and a coal tar fraction. Moran, 2,043,836, states that particularly effective pour point depressants for oils containing waxy materials, may be produced by the reaction, in the presence of anhydrous aluminum chloride, between oleic acid, an alkyl dichloride, and any unsubstituted aromatic hydrocarbons.

There are also substances of more direct mineral origin which will reduce pour points of lubricating oils. Pattin, 318,389, as early as 1885 refers to a low cold test oil made by incorporating into crude petroleum a sulphuric acid treated residuum. Davis, 1,917,875 adds wax tailings. Bonnell, 1,953,-039, uses cracking coil tar. Levin, 2,024,106 obtains a pour depressant by extracting a cracking still residue. Curtis, 2,037,563 uses a material taken up by absorbent earth from residual cylinder stock. Manly and Gross, 2,040,057 use a pour depressor consisting of an extract of pitch.

Soaps form an important group. Among these may be mentioned Van Gundy and Dimmig 1,594,762, Willock, Caplan and Babb, 1,625,969, Dimmig, 1,729,823, Rosenbaum, 1,752,309, Jarman, 1,767,076, Sullivan, 1,789,026, Bennett, Story and Beckley, 1,806,734, Bennett and Story, 1,806,735, Bennett, 1,820,295, and McGill, 1,837,279. As a rule soaps of aluminum, lead, magnesium and zinc are favored. The use of soaps to lower the pour point at present is less actively followed than the synthetic group. According to Dimmig the basic lead oleate is not permanently soluble in hydrocarbon oils and does not reduce the viscosity at low temperatures. Bennett and Story point out that in adding soap to lower the pour point there is a further problem involved in maintaining or stabilizing the low pour point.

Fatty oils have been used in some instances. Mackle, 1,677,244 describes an oil which may be employed at high or low temperatures in place of oils of different viscosities, mentioning its use "on airships and in other places where hydrocarbon engines are used." The lubricant consists of mineral oil, castor oil for body, and corn oil. The patentee states "If an oil is required to stand temperature below 32 F., a slightly greater percentage of corn oil is added. Since 20 per cent corn oil is used the action seems to be that of a simple diluent. Ott, 1,929,189 disclosed a railroad car journal oil "which is capable of efficient operation at temperatures varying from 100 F. or higher to -50 F. or lower. He states "A further object is to produce a lubricating oil having a

very low pour point, for instance a lubricating oil having a pour point of -60 F. or below. . ." His claims are drawn to a mineral oil which is substantially insoluble in liquid sulfur dioxide, together with a small quantity of oxidized rapeseed oil. Cottonseed and lard oils are mentioned as equivalents. Bijur, 1,944,164 produces a low pour test oil from a vacuum distilled bright stock petroleum oil of low carbon residue and low pour test made from asphaltic crudes and free from paraffin, together with blown rapeseed, cottonseed, peanut or corn oil. The objectionable property of becoming too viscous to be propelled through the drip plugs on a chassis is overcome by 6 per cent to 8 per cent of the blown fatty oil.

Fatty acids in some cases lower the pour points. Sullivan, 1,789,026 states that the cold or pour tests of viscous hydrocarbon oils are lowered by adding to the oil the acids obtained by oxidation of paraffin wax. McGill, 1,837,279 reduces the cold test, pour test, or equivalent inspection test of viscous hydrocarbon oils by means of hydroxystearic acid. Pevere and Ludeman, 2,031,227 prepare a lubricating oil of reduced pour test from naphthene base crudes by adding a minor proportion of a product formed by esterifying dihydroxystearic acid with stearic acid.

Certain esters of rather diverse types are used. For example Hagedorn, 1,882,816 dissolves 9 parts cellulose naphthenate in 100 parts transformer oil which at 100 C. has a viscosity of 1.0 degree Engler. Thereupon the oil exhibits at 100 C. a viscosity of 2.5 degrees Engler which remains constant at temperatures between -10 C. and 30 C. Hickman, 1,963,901 finds that jellies or pastes made from certain oils such as castor oil, rosin oil, or sperm oil, and cellulose esters, are valuable as lubricants for the reason that their consistencies are relatively unaffected between zero and 100 C. Ellis, 2,018,758 discloses pour inhibitors which are the esters formed by reacting alkylolamines with organic acids. These not only act in the case of lubricating oils but may also be used in greases or gear oils to aid in reducing the tendency to channeling. Wulff and Bruers, 2,020,714 use the polymerized fatty acid vinyl esters. Van Peski employs compounds of ester type obtained by condensing disaccharoses with aliphatic acids, to lower the pour points of waxy lubricating oils. Pevere, 2,039,111 prepares a lubricating oil having a reduced pour test from lubricating oil stock derived from mixed base and paraffin base crudes by the addition of ethylene glycol distearate.

Several substances of the ether group have been used. Hickman, 1,963,901 mentions cellulose ethers; Muench and Ufer, 1,984,421, polyglycol ethers; Schumann, Muench and Ufer, 2,020,703 and Wulff and Bruers, 2,020,714, polymerized vinyl ethers.

Chlorine compounds have an effect. Draper, 228,181 used chloroform in minor proportion to lower the degree of temperature at which the oil congeals. Oldacre, 1,604,068 observed that a cutting compound that has a low cold test is preferable to the converse, and produced such a fluid by heating mineral oil with sulphur chloride. Barnard, 1,796,857 employs carbon tetrachloride in the role of solvent or thinner. Henriksen and Lincoln, 1,959,054 report a low cold test in connection with the use of a very small amount of a chlorinated amide. MacLaren, 1,963,917 and 1,963,918 asserts that a stably bound chlorine content in a condensation type pour inhibitor enhances the effect. Prutton, 1,986,651 states that the cold test of lubricating oils is lowered by the use of chlorinated carbon ring compounds. Clark, 2,019,338 employs mixtures of chlorinated compounds of low pour point primarily for transformers but also for lubrication.

The amines are represented by Sullivan and McGill, 1,870,074, Henriksen and Lincoln, 1,959,054, and Ellis, 2,018,758.

Recently ketones have been found useful. In this respect note Ralston and Christensen, 2,033,543.

In some cases the action of pour point lowering is

Towers used in low-temperature dewaxing of lubricating distillates, a development of the last three or four years

definitely linked with an inhibiting effect on the formation of wax crystals. Van Gundy, 1,594,732 and Davis, 1,815,022 discuss this effect. However in some instances small quantities of pour inhibitors are applicable to oils which contain no paraffin. Bijur, 1,944,164 for example, employs a heavy-body oil mixture from asphaltic crudes. It has also been shown that the oil itself has some influence in determining the extent of the crystal inhibition. It is not the province of this article to discuss the scientific aspect of the phenomena, but it may be said that it is believed that the mechanism of pour point lowering is as yet not satisfactorily explained.

The following resume gives a brief summary of the United States patents that have issued on the subject of pour point lowering by means of addition agents, the patents being listed in chronological order. The pertinent portions are cited, no deductions being made as to the respective merits or efficacies of the various compounds.

# List of Patents on Pour Point Inhibitors

1. Hilton, 41068. Jan. 5, 1864. A mixture of petroleum oil, rosin, sulphur, lard oil, and common salt, is said not to congeal nor stiffen at 13 degrees below zero.

2. Gladden, 41840. March 8, 1864. Residuum, pine tar, and pulverized black lead, forms a lubricant which is but little affected by changes in temperature.

3. Eames and Seely, 66573. July 9, 1867. The invention is founded on the fact that a small quantity of caoutchouc or India rubber dissolved in oil increases the fluidity at low temperatures.

4. Moore, 97262. Nov. 23, 1869. To a lubricating oil made as follows: ten barrels of residuum, one barrel benzole, three gallons of alkali, three pounds of saltpetre, five pounds of rock salt, and fifteen pounds of sulphur, there is added one gallon of ammonia for the purpose of keeping the oil from congealing when reduced to a low temperature.

5. Reck, 127429. June 4, 1872. A mixture of resin, lime, lard, turpentine and water is reputed to have the peculiar property of remaining of "equal consistency" and not becoming firmer when cold.

6. Norris, 145812. Dec. 23, 1873. A composition of refined lubricating oil, residuum, Spanish whiting, sal soda, "seboline", and finely powdered cannel coal, is said to be non-congealable in its properties to an extraordinary degree.

7. King and Hill, 148568. March 17, 1874. Crude petroleum and graphite resists a low degree of temperature without congealing.

8. La Roche, 177525. May 16, 1876. A lubricant is composed according to the following formula: kerosine 16 oz., beeswax 4 oz., plumbago 8 oz., crude petroleum 80 oz., and a water solution of salts of tartar. This composition is liable to harden or congeal at even a high degree of temperature. But after adding 8 oz. of glycerine it is found that the product maintains its easily-flowing character at even very low temperatures, for example 15 F., yet retain a perfectly oily lubricating power in the heat of summer.

9. Billington, 179256. June 27, 1876. An oil containing a large amount of soap will not congeal nor harden on cold iron.

10. La Roche, 179801. July 11, 1876. A compound of mineral oil, wax and graphite will remain fluid throughout a large range of temperatures.

11. Johnston, 199913. Feb. 5, 1878. A liquid lubricating compound of petroleum, palm wax, graphite, mineral extract of petroleum and a suitable alkali, resists congelation at a temperature 30 or 40 degrees lower than sperm or lard oil.

12. Johnston, 203839. May 21, 1878. Basically the same as Johnston 199913.

13. Lippencott 210461. Dec. 3, 1878. Turpentine acts to prevent separation under conditions of winter cold of a lubricant composed of crude petroleum 20 parts and petroleum 20 parts, one part turpentine being used.

14. Lippencott, Reissue 8897. Sept. 16, 1879. One part pine tar added to three parts petroleum oil of 32 Baume produces a lubricant which maintains a permanent and substantially uniform liquidity under alterations of heat and cold.

15. Lippincott, Reissue 8898. Sept. 16, 1879. Substantially the same as Reissue 8898.

16. Draper, 228181. June 1, 1880. Chloroform in the proportion of 3 pounds to each 25 gallons of oil will maintain the fluidity at temperatures as low as 0 F. of petroleum and lard oils, which ordinarily would solidify at about 40 F.

17. Norris, 267920. Nov. 21, 1882. A lubricating compound composed of mica, charcoal, and sal soda, in combination with paraffin oil, black oil, petroleum residuum, mutton and beef tallow, concentrated lye, and water remains of about the same consistency in hot or cold weather.

18. Pattin, 318389. May 19, 1885. Take 40 parts petroleum residuum and mix with 16 to 60 parts benzine. Then add 1 or 2 parts sulfuric acid, agitate, and allow to settle. The result is a compound which when incorporated in crude petroleum and the mixture stilled in the ordinary way yields a lubricant of zero and below cold test.

19. Axtell, 1226165. May 15, 1917. A lubricant for use at temperatures down to fifty degrees below zero is composed of alcohols carrying calcium chloride and graphite.

20. McKee and Eckert, 1529658. Assigned to the Sun Oil Company. Mar. 17, 1925. A grease made from a mineral oil having a cold test varying from thirty to forty degrees below zero F. has a cold test the same or lower than the oil.

21. McKee and Eckert, 1530386. Assigned to the Sun Oil Company. Mar. 17, 1925. A grease typically made from refined lubricating oil, "Maitland fatty acid," and tallow, has a cold test equal if not superior to the mineral oil from which it is made.

22. Hutton, 1568606, Jan. 5, 1926. A cup grease consisting of petroleum jelly, white lead, graphite, sulfur, linseed oil and tallow remains semi-liquid in the coldest weather.

23. Van Gundy and Dimmig, 1594762. Assigned to the Texas Company. Aug. 3, 1926. Lead soaps have the property of reducing the viscosity at low temperatures of the compound into which they enter below that of the oil stock with which they are mixed. The effect on paraffin

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oils is especially marked, the soaps hindering the formation of wax crystals. The effect on asphalt base oils is less marked.

24. Oldacre, 1604068. Assigned to D. A. Stuart and Company. Oct. 19, 1926. In making a cutting oil by treatment of mineral oil with sulfur chloride it is found that the cold test of the oil is lowered.

25. Willock, Caplan and Babb, 1625969. Assigned to the Waverly Oil Works Company. Apr. 26, 1927. Lubricants consisting of petroleum oils compounded with certain soaps remain fluid at temperatures of 5 to 10 F.

26. Mackle, 1677244. July 17, 1928. Twenty per cent castor and corn oils respectively render mineral oils capable of use at high or low temperatures, 32 F. being mentioned. The composition is intended to be used in internal combustion engines.

27. Reizenstein, 1715785. June 4, 1929. In a lubricant consisting of castor and mineral oils, Russian oil is used by reason of its very low cold test.

28. Dimmig, 1729823. Assigned to the Texas Company. Oct. 1, 1929. Lead soaps are used in paraffin or asphalt base oils.

29. Cross, 1739631. Assigned to the Silica Products Company. Dec. 17, 1929. A Texas Gulf coast oil, mixed with aluminum oleate, graphite, bentonite and water, retains its low cold test.

30. Rosenbaum, 1752309. Apr. 1, 1930. The aluminum soap of treated castor oil lowers the freezing point of mineral lubricating oils and prevents the precipitation of amorphous or inert inclusions such as waxes.

31. Jarman, 1767076. Assigned to the Lindsay-McMillan Company. June 24, 1930. The cold test of paraffin base oils is reduced from 35 F. to 0 F. by addition of 1 per cent zinc degras soap.

32. Sullivan, 1789026. Assigned to the Standard Oil Company of Indiana. Jan. 13, 1931. Forty grams of the acids obtained by oxidation of paraffin wax per liter of oil lowers the pour test from 30 F. to about 0 F. The zinc and magnesium salts may be used also. The cold test is lowered without substantial change in viscosity.

33. White and Knopf, 1789614. Assigned to the Sinclair Refining Company. Jan. 20, 1931. A gear lubricant consisting essentially of an oxidized blend of light lubricating oil, heavy flux oil, and sodium soaps of petroleum acids, is satisfactory for use in winter as well as summer.

34. Barnard, 1796857. Assigned to the Standard Oil Company of Indiana. Mar. 17, 1931. Carbon tetrachloride added to lubricating oil in the quantity of 7 per cent insures circulation and lubrication when starting aeroplane engines in very cold weather. The diluent is eliminated after half an hour full-load operation thus insuring efficient lubricating during prolonged operation.

35. Southard, 1804124. May 5, 1931. A low cold test crude is reduced by distillation to produce an oil which when mixed with not over 20 per cent aluminum stearate forms a lubricant which has an unusually wide range between cold test and melting point.

36. Bennett, Story, and Beckley, 1806734. May 26, 1931. Aluminum stearate, 0.05 to 1.0 per cent, lowers the pour point of paraffin base oils from 20 F. to 0 F.

37. Bennett and Story, 1806735. May 26, 1931. In order to overcome the tendency of oils containing pour point inhibitors of the soap type to revert to higher pour point characteristics, either a high temperature is used to blend the soap and oil, or a "stabilizer" in the form of a high boiling alcohol or ester is added.

38. Livingstone and Cruse, 1808853. Assigned to the Gulf Refining Company. June 9, 1931. A lubricant comprising a petroleum oil bodied with soap, and reduced in viscosity by means of a thinning agent such as petroleum naphtha, has a viscosity, equivalent at some temperature to the viscosity of the oil, but has greater fluidity at lower temperatures.

39. Edmiston, 1810555. June 16, 1931. Glycerine overcomes the tendency of fixed oils to raise the cold test of mineral oil.

40. Davis, 1815022. Assigned to the Standard Oil Development company. July 14, 1931. A viscous hydrocarbon fraction containing a solid waxy constituent in proportion sufficient to give a relatively high pour point is blended with a synthetic hydrocarbon formed by the condensation of a waxy hydrocarbon material with an aromatic hydrocarbon. This is the patent under which Paraflow is purported to be made.

41. Bennett, 1820295. Aug. 25, 1931. Crude petroleum is rendered fluid at low temperatures by adding a small quantity of soap. For example an Amarilla crude petroleum which solidified at 60 F. was rendered capable of flowing at temperatures as low as 0 F. by the use of 0.1 per cent aluminum stearate.

42. White and Knopf, 1831614. Assigned to the Sinclair Refining Company, Nov. 10, 1931. See White and Knopf, 1789614.

43. McGill, 1837279. Assigned to the Standard Oil Company of Indiana. Dec. 22, 1931. The pour point of a viscous hydrocarbon oil is lowered by the addition of 40 to 50 grams per liter of compounds of hydroxystearic acid from 30 or 35 F. to 2 F. or lower.

44. Sullivan and McGill, 1870074. Assigned to the Standard Oil Company of Indiana. Aug. 2, 1932. The addition of 1¼ grams of 1,3-dimethyl 4-phenyl stearamide per liter of oil reduces the pour test from 30 F. to 16 F.

45. Hagedorn, 1882816. Assigned to the I. G. Farbenindustrie Aktiengesellschaft. Oct. 18, 1932. A transformer oil containing 9 parts cellulose naphthenate per 100 parts of oil, has a viscosity which remains constant at temperatures lying between -10 C. and 30 C.

46. Bennett and Story, 1896342. Assigned to the Mid-Continent Petroleum Corporation. Feb. 7, 1933. The tendency of oils having lowered pour points to deteriorate and revert to the original pour point is averted by incorporation of the inhibitor at high temperatures. See also patent 1806735.

47. Davis, 1917875. Assigned to the Standard Oil Development Company. July 11, 1933. About 1 per cent wax tailings oxidized or otherwise reduces the pour point of a waxy crude from 45 F. to 10 F.

48. Ott, 1929189. Assigned to the Union Oil Co. Oct. 3, 1933. Rapeseed oil, preferably blown, lowers the pour point of mineral oils from naphthenic base crudes as much as 40 F.

49. Bennett and Story, 1942636. Assigned to the Mid-Continent Petroleum Corp. Jan. 9, 1934. Lubricating oil is diluted with about 10 per cent light oil or naphtha, soap being added to retain the lubricating value after dilution.

50. Bijur, 1944164. Assigned to the Auto Research Corporation. Jan. 23, 1934. The pour point of a vacuum distilled bright stock petroleum oil derived from asphaltic

crudes and free from paraffin is improved by blown rapeseed oil.

51. Smith, 1944851. Assigned to the Gulf Refining Company. Jan. 23, 1934. A "green bloom agent" resulting from heating petroleum oils in the presence of anhydrous aluminum chloride suppresses the formation of a wax gel in paraffin type oils and hence tends to reduce the pour test of such oils.

52. Bonnell, 1953039. Assigned to the Standard-I. G. Company. Mar. 27, 1934. Cracking coil tar reduces the pour points of lubricating oils, the objectionable discoloration being overcome by hydrogenation.

53. Henriksen and Lincoln, 1959054. Assigned to the Continental Oil Company. May 15, 1934. Chlorinated orthotolyl stearamide reduces the cold test of a high quality overhead stock from 20 F. to -4 F.

54. Maverick, 1963239. Assigned to the Standard Oil Development Company. June 19, 1934. Condensation products of paraffinic and aromatic hydrocarbons improve the fluidity at low temperatures of gear oils.

55. Hickman, 1963901. Assigned to the Eastman Kodak Co. June 19, 1934. Cellulose esters added to an oil forms a jelly or paste the consistency of which remains relatively unaffected between 0 and 100 C., in this being distinguished from lubricants or greases employed in automobiles which in colder weather become so stiff or solid as to practically prevent the operation of the machinery they are intended to lubricate.

56. MacLaren, 1963917. Assigned to the Standard Oil Company of Indiana. June 19, 1934. The pour point of wax bearing oil is reduced by adding a condensation product obtained by the Friedel-Craft synthesis of chlorinated wax and aromatic substances such as naphthalene and characterized by a stably bound chlorine content of about 2 to 10 Per Cent.

57. MacLaren, 1963918. Assigned to the Standard Oil Company of Indiana. June 19, 1934. There is described a modified process of making a product similar to that of patent 1963917 supra, designated Pourex.

58. Muench and Ufer, 1984421. Assigned to the I. G. Farbenindustrie Aktiengesellschaft. Dec. 18, 1934. The addition of glycol ethers lowers the setting points of vegetable, animal and mineral oils. Example: 30 parts castor oil, 30 parts ethylene glycol mono-cresyl ether, and 10 parts mineral oil remains clear at -10 C.

59. Prutton, 1986651. Assigned to the Lubri-Zol Corp. Jan. 1, 1935. A lubricant comprising lubricating oil and a minor proportion of a halogenated carbon ring compound is useful in internal combustion engines in cold weather by reason of the lowered cold test.

60. Shaffer and Fasce, 1988753. Assigned to the Standard Oil Development Co. Jan. 22, 1935. A preparation obtained by heating in the presence of aluminum chloride, anthracene and an Edeleanu extract, when added in small amount to lubricating oil improves the pour point.

61. Frolich, 2015748. Assigned to the Standard Oil Development Co. Oct. 1, 1935. An improved process of making the pour inhibitor of patent 1815022. The product reduces the pour point of spindle oil as much as 55 F.

62. Ellis, 2018758. Assigned to the Standard Oil Development Co. Oct. 29, 1935. The esters obtained by reacting organic acids with the alkylol groups of alkylolamines are effective pour inhibitors, reducing the solidification point of wax bearing oils as much as 35 F.

63. Clark, 2019338. Assigned to the General Electric Co. Oct. 29, 1935. A mixture of tetrachlor ethylene and pentachlordiphenyl shows a pour point 60 C. lower than that of the pentachlor diphenyl. The mixture is primarily intended for a dialectric, but can be used for lubrication.

64. Schumann, Muench and Ufer, 2020703. Assigned to the I. G. Farbenindustrie Aktiengesellschaft. Nov. 12, 1935. The setting point of lubricating oil is lowered by incorporating the polymerization products of vinyl ethers of unsaturated alcohols.

65. Wulff and Brewers, 2020714. Assigned to the I. G. Farbenindustrie Aktiengesellschaft. Nov. 12, 1935. The setting points of lubricating oils are lowered by incorporating highly polymerized vinyl esters of fatty acids.

66. Van Peski, 2022990. Assigned to the Shell Development Co. Dec. 3, 1935. Products obtained by condensing di-saccharoses with aliphatic acids are found suitable for lowering the pour points of viscous lubricating oils containing waxy constituents.

67. Levin, 2024106. Assigned to the Texas Co. Dec. 10, 1935. A pour depressant is obtained by extracting a cracking still residue with solvents, and precipitating from same a solid material.

68. Pier and Christmann, 2028349. Assigned to the I. G. Farbenindustrie Aktiengesellschaft. Jan. 21, 1936. Voltolization products and condensation products are added to oils containing additional agents to increase the viscosity and flatten the temperature viscosity curve.

69. MacLaen, 2030307. Assigned to the Standard Oil Co. of Indiana. Feb. 11, 1936. A process of preparing pour point depressors of the condensation type.

70. Pevere and Ludeman, 2031227. Assigned to the Texas Co. Feb. 18, 1936. A mineral oil having a reduced pour point is prepared by adding a small proportion of an esterified hydroxy stearic acid.

71. Ralston and Christensen, 2033543. Assigned to Armour and Co. Mar. 10, 1936. Mixed ketones reduce the pour point of mineral oil.

72. Ralston, Christensen and Selby, 2033546. Assigned to Armour and Co. Mar. 10, 1936. The pour points of mineral lubricating oils are reduced as much as 60 F. by means of products obtained by the Friedel-Crafts reaction of higher fatty acid chlorides and coal tar fractions.

73. Curtis, 2037563. Assigned to the Socony-Vacuum Oil Co. April 14, 1936. A material taken up by adsorbent earth from residual cylinder stock lowers the pour point of a wax containing petroleum stock.

74. Pevere, 2039111. Assigned to the Texas Company. Apr. 28, 1936. Glycol di-esters of higher saturated fatty acids lower the pour point of partially dewaxed paraffin base lubricating oils.

75. Manley and Gross, 2040057. Assigned to the Texas Co. May 5, 1936. A pour depressing substance is obtained from pitch.

76. Moran, 2043836. Assigned to the Socony-Vacuum Oil Co. June 9, 1936. To lower the pour point of a wax containing oil a relatively small quantity of the oily product of the reaction of oleic acid, an unsubstituted aromatic hydrocarbon, and the dichloride of ethylene or propylene is used.

77. Winning and Young, 2045742. Assigned to the Standard Oil Development Co. June 30, 1936. The sensitivity of waxy residual oils with respect to the action of pour inhibitors, is improved by treating the oils in such a way that the colloidal substances responsible for the interference are removed.

# FURNACE DESIGN

## Stops Overheating

## Reduces Building Costs

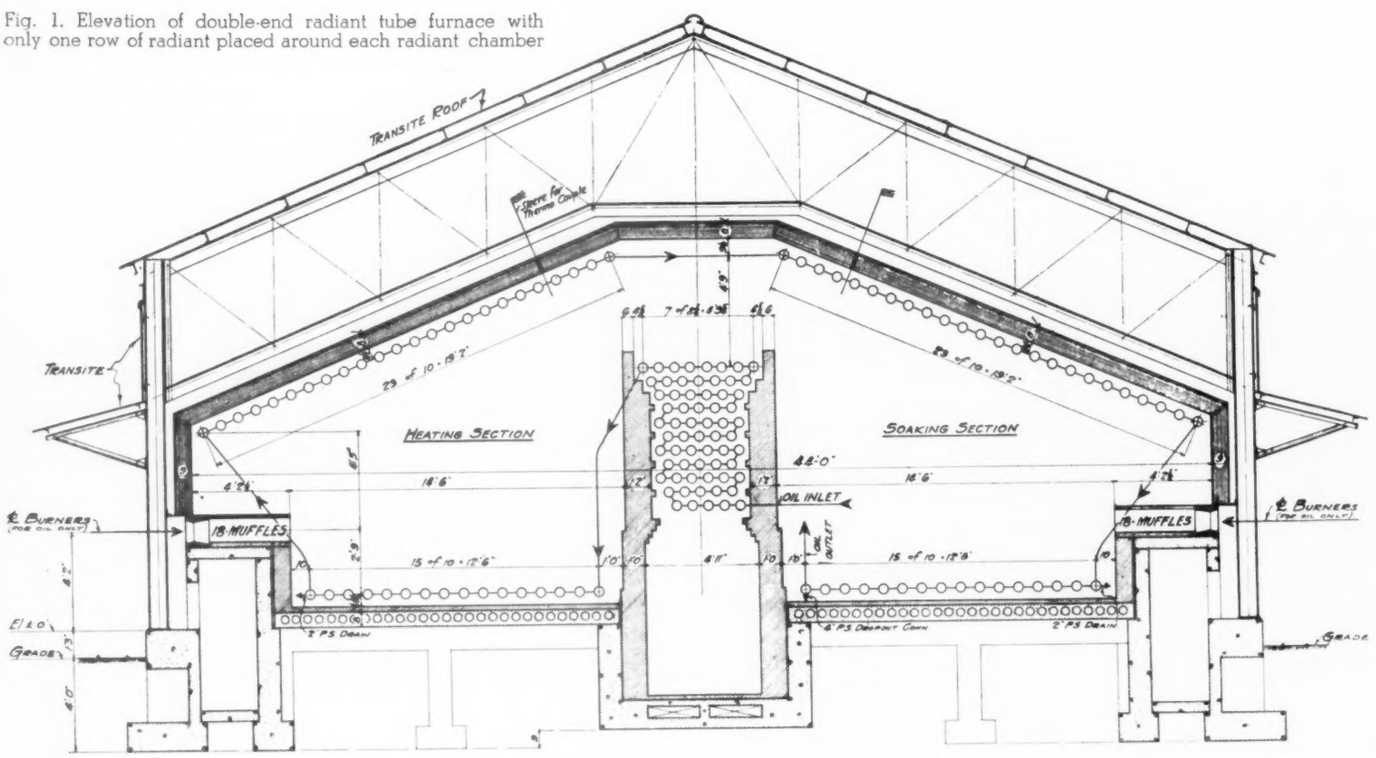
FOR purposes of discussion radiant heaters for oil refining processes are defined in this paper as those which have a distinctly separate portion of their heat absorbing surface heated preponderantly by radiation and the remaining surface heated primarily by convection. From this it follows that a truly radiant heater must have heat absorbing surface so arranged as to be out of the path of the hot or burning gases flowing through the radiant chamber into the convection section.

Some early designs of so-called radiant heaters show the importance of this fundamental principle. In these earlier heaters there were banks of tubes exposed directly to the radiant chamber that had a small portion of their surface directly in the path of the hot gases. Heat inputs as high as 30,000 B.t.u.'s per square foot were found in these small sections subjected to dual heating, with averages as low as 4500 B.t.u.'s per square foot for the whole bank. This caused overheating of the tubes in question and skin cracking, with resultant coking on the interior of the tubes, causing high oxidation and loss of tubes.

After some experience in operation, various refiners limited the total B.t.u. input per square foot of tube surface, used unduly expensive metals for the tubes, and frequently decreased the normal length of runs in an effort to eliminate the hazard arising from improper heating of these tubes.

In order to secure maximum results possible under the basic law of heat separation, development and design proceeded along several lines. First, development of proper methods of combustion; second, elimination of dangerous eddies; and third, proper disposition of tubes to obtain maximum radiant absorption simultaneously with even ab-

Fig. 1. Elevation of double-end radiant tube furnace with only one row of radiant placed around each radiant chamber




Notes
ALL TUBES 5"O.D. - ½" MIN WALL - 38'7" EFF LENGTH.
TUBES IN CONVECTION, & FLOOR HEATING SECTIONS, CARBON STEEL.
ALL OTHER TUBES, TO BE CARBON MOLY

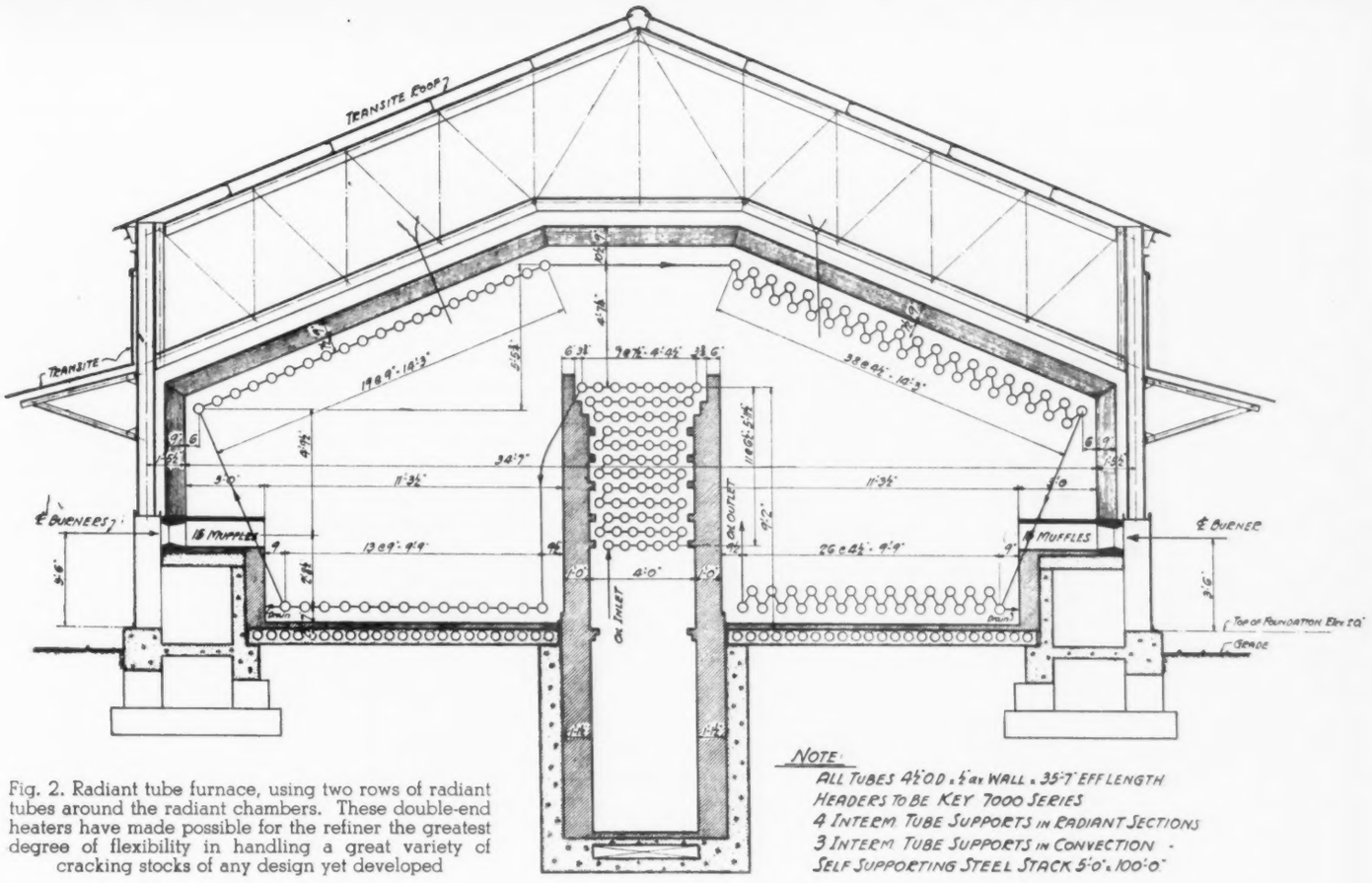



Fig. 2. Radiant tube furnace, using two rows of radiant tubes around the radiant chambers. These double-end heaters have made possible for the refiner the greatest degree of flexibility in handling a great variety of cracking stocks of any design yet developed

sorption throughout the length of the tubes and across the width of the banks.

Development of proper combustion conditions was along two distinct lines:

First, experimentation on and actual use of burners of large size, firing either oil or gas or a combination of the two, and obtaining open combustion in the fire box of the heater. Very frequently, due to lack of proper air mixture with the fuel, somewhat delayed combustion resulted. If sufficient excess air to secure extremely rapid combustion was admitted with the fuel, the excess air tended to decrease the radiant possibilities of the ensuing flame. The expanding gas did either one of two things: it either hit tubes located around the combustion chamber or created hot spots on the combustion chambers refractory, which in turn made for uneven radiation. The result of this type of firing indicated a higher number of overheated tubes than was considered permissible, or produced lower efficiencies in the heater than could be allowed. As the flame was not controllable as to application, it was not acceptable as the best method of firing. Aside from the difficulties mentioned with the firing itself, the use of only a few burners with a large area for air admission set up eddy currents in the heater, which made controlled firing difficult under ordinary weather conditions.

The second method of combustion investigated, for the firing of radiant heaters, was the method of obtaining maximum combustion in closed muffles. By changing muffle lengths, muffle design and finally obtaining the proper mechanical appliances, muffles were developed to a high degree of efficiency. In muffles, equipped with air diffusers to insure complete mixing of air with fuel (either gas or oil) it was possible to secure a very high rate of combustion, practically complete in the muffle. By putting the entire amount of air necessary for complete combustion through the muffle, it became possible to entirely eliminate secondary combustion. This produced the highest obtainable temperature in the gases and assured maximum radiant transfers. The high velocity of the products of combustion leaving the muffles permitted control of these products, so that the application of heat was at the designer's and operator's command. Muffles of small size were installed in sufficient numbers to create a thin plane of high temperature gases parallel to the tube surface, giving an even heat input to the individual tubes throughout their length.

Elimination of dangerous eddies in the heaters provided additional control of the products of combustion and further reduced uneven heat distribution. The elimination of eddies was effected by proper design of the radiant chamber to allow the gases to flow according to their natural law.

As a result of these various developments; that is, securing practically complete combustion outside of the radiant chamber of the furnace; being able to control the direction, velocity and location of the products of combustion, and the elimination of harmful eddies in the radiant chamber; and following the formula for separation of radiant and convection heat, it became possible to design the radiant section practically as it now exists. This form in

BY F. H. PRAEGER* AND T. B. LEECH*

**Presented before Western Petroleum Refiners Association, Shreveport, La., Nov. 6, 1936, under the title, "Radiant Refinery Heaters — Their Design And Application".**

*Alcorn Combustion Co.

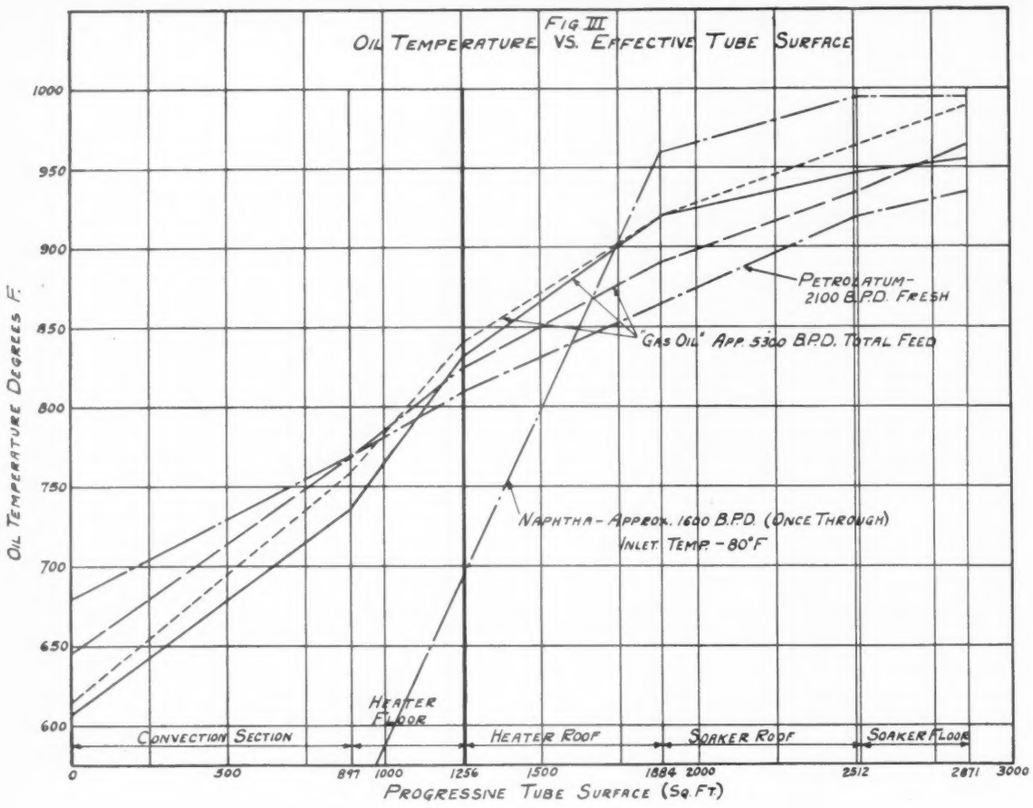



Fig. 3. Curves showing the flexibility of operation practicable with the type of furnace, operating on a number of different stocks to obtain wide differences in different coil temperatures

general provides for radiant heat absorbing tubes along the floor and roof of the radiant chamber.

Heating in the convection bank is essentially in two separate phases; that is, the upper part is heated partially by radiation from the roof and partially from convection from the relatively cold gases passing over the bridge wall. The lower tubes in the convection banks are heated almost wholly by convection heat and conduction directly from the gases to the tubes.

All of these design factors lead to change in shape and design of the heater. It was apparent that tubes located along the roof of the radiant chamber adjacent to the wall did not receive the desired amount of radiant heat. The roof of the heater was sloped in order that these tubes and others disposed along the roof might receive greater radiation from the muffles, the bridge wall and the non-luminous products of combustion passing from the muffles to the bridge wall. This sloping of the roof also assures a very even input across the width of each individual bank. The high velocity gases from the muffles permits an extremely high radiant heat input to floor tubes and also heats the rear wall of the radiant chamber for re-radiation to the tubes disposed on the floor and roof of the chamber.

The effect of the change in the heater design was radical. The possible high heat inputs to the tubes demanded high velocity of oil passing through the tubes in order that heat might be removed from the inside of the tubes as rapidly as it could be applied to the outside of the tubes. The high velocity of the oil through the tubes created a higher pressure drop per liner foot, which was completely compensated for by the great decrease in the amount of surface required in the heater for a definite heat application to the oil. The high velocity of oil in the tubes, high velocity of products of combustion, maximum radiation and completely even heating, resulted in heaters in which from 65 to 75 per cent of the total heat into the oil could be applied in the radiant section. The remaining 25 to 35 per cent of the total heat to the oil is absorbed in the convection section with reasonable flue gas temperatures.

The high peak of heat input in radiant tubes was reduced from 30,000 B.t.u.'s per square foot to a maximum only slightly higher than the average in the entire radiant section. The entire design resulted in much less expensive heaters, in which even heating permitted better operation at lower cost. The value of these developments was demonstrated as far back as 1929 when a radiant heater was built on these basic principles and operated for long runs with average heat to all the tubes of 15,000 B.t.u. per square foot of effective area.

Simultaneously with the development of fundamental heater design, new materials were developed by various manufacturers. These materials were adopted as fast as they were developed. As a result the radiant type heaters in question are constructed of the best material for the purpose in hand.

Suspended walls and firebrick above grade are all of first quality, tube hangers in the hot areas of the heater contain 26 per cent nickel, 12 per cent chrome. The entire tube element is suspended from the structural steel which forms the body of the furnace. All walls are enclosed in steel sheathing, the entire heater being covered by a transite roof. All muffles are equipped with combination oil and gas burners designed for operation on either fuel or simultaneously on both fuels in case that is necessary.

This type of construction renders maintenance a negligible item in refinery expense except for corrosion of tubes and headers. The heaters are extremely easy to operate, as, after individual burners are set, the entire heat input into one of the radiant chambers is controlled by a single master valve used for increasing or decreasing the amount of fuel consumed. The heaters can be very readily cleaned

as all banks are extremely accessible from the very adequate platforms provided. Since the heating in the radiant banks is extremely even, coke deposits are slight and as the number of tubes are few coke can be removed with great rapidity.

Early in the history of cracking it was recognized that all virgin stocks cannot be cracked under the same condition of time and temperature. Some oils, even in the same process, require low temperature, long time, others relatively low temperature with short time. A third class may require high temperature with long soaking time and a different class of oils a high temperature with short soaking time.

Reaction velocity in any given process or heater for a particular oil is purely a function of temperature. Crack per pass is a function of time and temperature. Very often a heater or unit is designed for a particular stock. After the unit is placed in operation the stock is not of the quality originally anticipated and all too frequently an entirely different feed from that originally anticipated is available for the cracking plant. The change in stock necessitates either a lower or higher temperature for optimum reaction velocity, and with the same time as originally anticipated, or, conversely, it requires the temperature originally anticipated but with either longer or shorter time in order to secure the desired cracking per pass.

The soaking sections were formerly placed in the convection banks of heaters as it was necessary that the soaking section have a relatively low B.t.u. input per square foot. This made it impossible to control the heat input into the soaking section; the temperature gradient was inflexible; time could only be changed by changing throughput or by changing crossovers in the heater.

Certain large refineries recognizing the inflexibility of convection soaking resorted to the expedient of using two heaters for a single coil. That is, one heater was used for bringing the oil up to temperature and another heater used to introduce heat of cracking with a possible small rise in temperature. This, of course, permitted these plants to operate with much more desirable results than were possible in plants in which any particular quality of oil had to be heated and soaked in the same heater. To eliminate this difficulty and to create a heater in which both soaking time and reaction temperature were completely controllable and double end heater was designed.

This heater was essentially composed of two heaters containing all of the developments previously mentioned, but located back to back with a single convection section common to the two heaters. The flow through the double end heater was through a convection section which is used as an efficient preheater, but one in which the heat input is high, and so located that it is of distinct aid to the process. From the convection section oil flows successively through tubes located on the floor of one of the radiant chambers, through tubes located across the roof of the same radiant chamber, through tubes located on the roof of the second radiant chamber and finally through tubes located on the floor of the same chambers. The first chamber through which the oil flows is designated as the heating side of the furnace with the second chamber being known as the soaking side of the heater.

It will thus be seen that the two radiant chambers can be fired completely independently of each other. The temperature level of the cross-over from the heating side to the soaking side, with relation to the outlet temperature, can be changed by merely changing the ratio of heat input to the two sides of the heater. It is thus possible within certain limits imposed by the stock to obtain any desired temperature or reaction velocity entering the soaking section and by proper design of the heater with sufficient flexibility entering therein, to obtain any necessary soaking time for a particular type of stock.

In Fig. 1 there is illustrated a double end heater with a single row of tubes located around each radiant chamber. Fig. 2 illustrates a heater with a double row of tubes located around each chamber. The introduction of this type

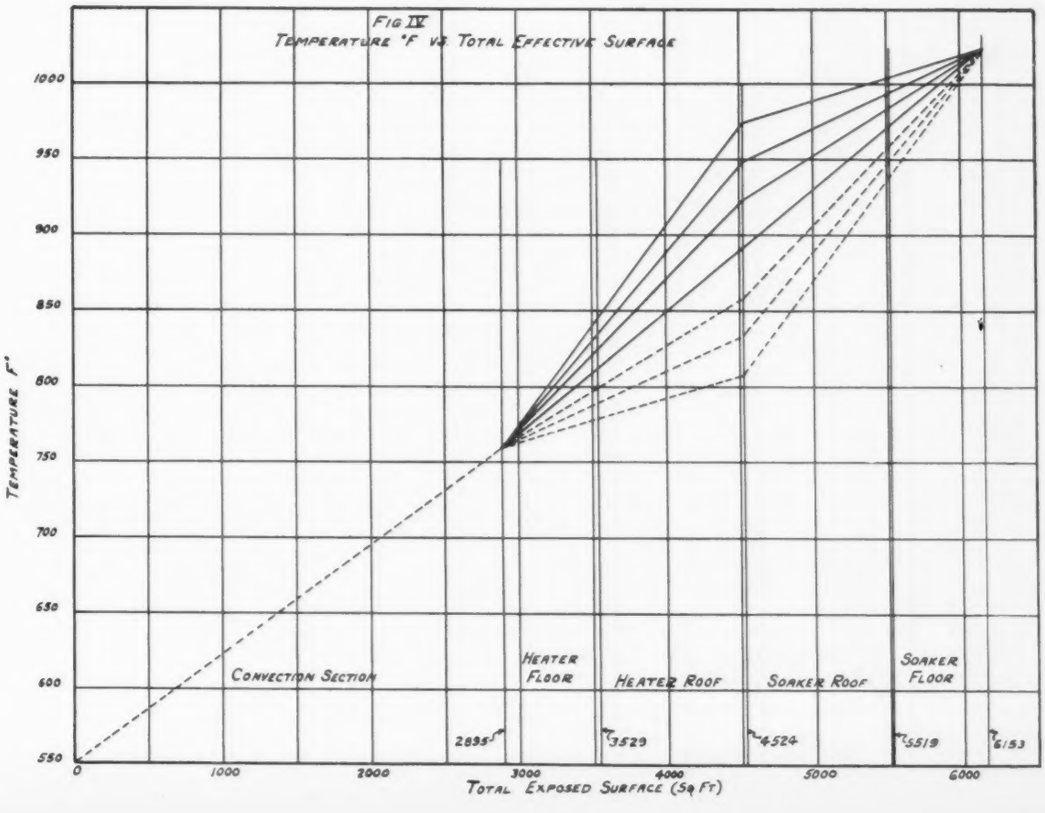


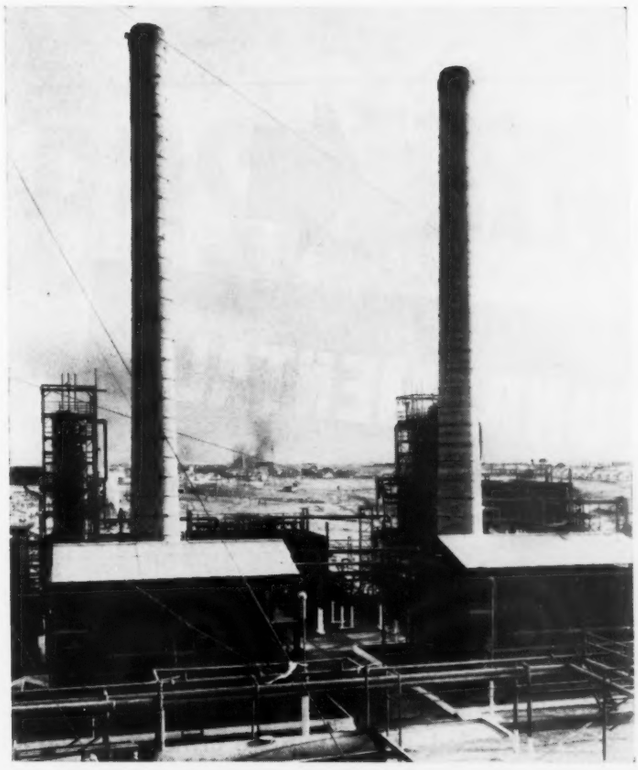

Fig. 4. Temperature curves showing flexibility obtainable in a furnace designed for either reforming or light oil cracking

of heater offers the utmost flexibility for any single coil in any type of cracking plant. By proper operation it provides a means of obtaining the highest crack per pass for any given stock being charged to a single heater.

As an example, we might cite a heater similar to that indicated in Fig. 1 in which petrolatum stock is initially charged. When the quantity of this feed on hand has been consumed temperatures are adjusted and without shutting down the plant gas oil is charged to the heater. After this stock has been completely exhausted the cracking unit is switched over to light fuel oil, with merely an adjustment of the heating to compensate for change in quality. After the light fuel oil has been run the feed stock is switched to reforming naphtha with again a change in heater temperature, this time to provide a long soaking time with minimum temperature rise. This is an excellent illustration of the possible flexibility to be obtained from any double end heater operating on a variety of stocks. In this particular plant as many as eight changes in type of stock have been made during a single run without at any time having to curtail the length of run because of change in quality of stock going to the heater. Fig. 3 shows curves chosen at random to illustrate this actual operation.

Another illustration of the desirability of this type of heater is found in reforming operations. When reforming for a given octane rating gasoline it is essential that oil temperature be brought to a high level and that the oil then be soaked for a given length of time. If the heat input in the soaking section is not controllable and the temperature becomes too high, higher octane gasoline than that required is produced but the gas loss is excessive. If no control is obtainable through the soaking section a drop in temperature may permit coking to occur at an unduly rapid rate, and in addition conversion is curtailed during the on-stream time. A furnace with a controllable heat curve will permit heating to take place through the con-

The apparent confusion in the construction of this huge distillation unit of Standard Oil Co. of California's Richmond refinery is anything but haphazard, but a carefully and elaborately worked out design to accomplish the maximum results in minimum time and with the minimum equipment



Two thousand barrels per day of polymerized gasoline is made in these two units of Phillips Petroleum Co.'s refinery at Borger, Texas. These units represent the latest development in gasoline production and as a conservation measure of the industry to eliminate gas wastage

vection section and one side of the heater to any desired temperature and permits soaking for a desired amount of time with a low temperature rise plus heat of cracking in the soaking side of the heater. With this type of heating the same octane may be obtained as in the first case, but with a much lower loss. The coke which is inherent to the second case is practically eliminated.

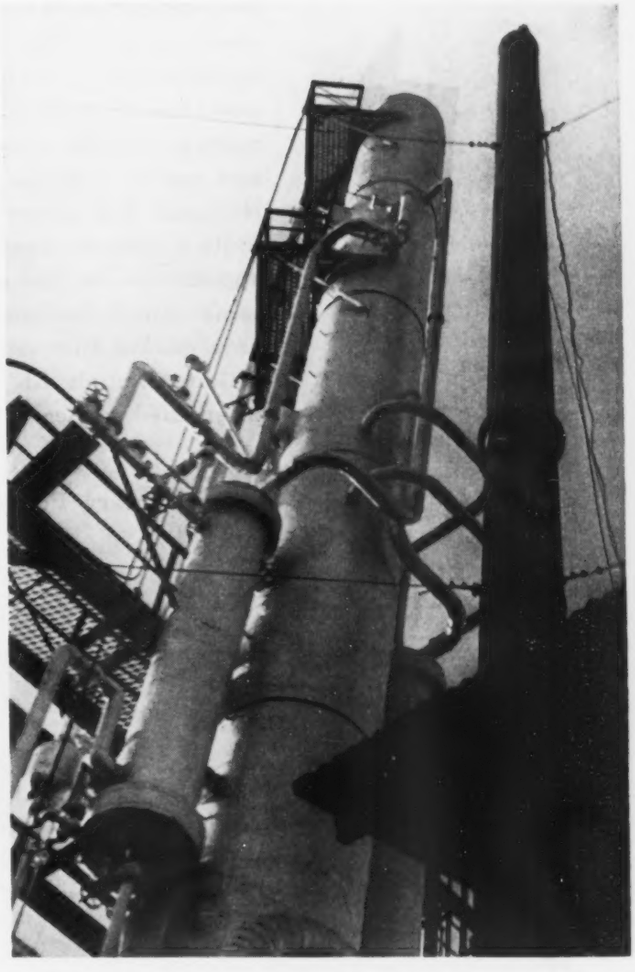
Fig. 4 indicates flexibility of a heater designed for either reforming or light oil cracking. In each case the temperature at the cross-over from heating to soaking side takes into account the approximate heat of cracking. *Dotted* lines indicate the flexibility of the heater running the same quantity of oil to the same maximum temperature with no soaking.

The flexibility of the double end type of heater is well illustrated by a heater for an entirely different purpose than that discussed heretofore. This heater was designed for use in connection with a contact filtration process in which it was required that the charge might be from 1500 to 5200 barrels per day, of 80 seconds Saybolt Universal at 100 F. to 2400 S.S.U. at 100 F. in which the outlet temperature would vary from 250 F. to 650 F., and in which the feed stock was to contain from 3 to 30 pounds of contact clay per barrel of feed. The clay itself ran some 10 to 12 per cent moisture content. It was required that outlet velocities after the vaporization of water contained in the clay should be held within certain rather low limits in order to avoid erosion.

In order to meet these qualifications the heater was designed so that the radiant flow was single series, two parallel flows, three parallel flows or four parallel flows. It was required that under any of these conditions there should be no degradation in flash or fire from the original feed stock and no degradation in color when compared to a laboratory sample rapidly heated and contacted. It was further required that when running parallel streams the various outlet temperatures should not vary more than plus or minus 5F. from the specified temperature for the particular stock in question. This heater is today operating satisfactorily, meeting the conditions of no degradation of flash or fire and with no degradation in color as compared to laboratory tests. In fact, the products are lighter in color than can be obtained on a highly refined method of laboratory comparative testing.

Radiant Heaters, as defined in this paper, have been constructed with a total fresh feed capacity of 210,000 barrels per day and a combined feed capacity of 700,000 barrels per day. Heaters having an additional capacity of 50,000 barrels per day fresh feed bringing the total combined capacity to 800,000 barrels per day are being constructed.

It will thus be seen that there have been developed heaters for topping in which the overall B.t.u. heat input is approximately 15,000 B.t.u.'s per square foot of effective surface; that there have been heaters developed for cracking service which eliminate the possibility of oxidizing due to overheating of individual tubes and which make possible an average B.t.u. input of 12,000 B.t.u. per square foot of radiant surface with all of the tubes being heated at substantially the same rate. It will also be seen that the method of heat application and distribution can be applied to the heating of any refinery feed stock without degradation of that stock unless such degradation is an inherent part of the process. It is further to be noted that such heaters are relatively inexpensive to construct, have low maintenance cost and are easy and economical to operate.



Symmetry of line and a systematic layout of the innumerable pipes, tubes and towers in a refinery show that the designing engineer has an eye for practical beauty if not for the aesthetic in industrial construction

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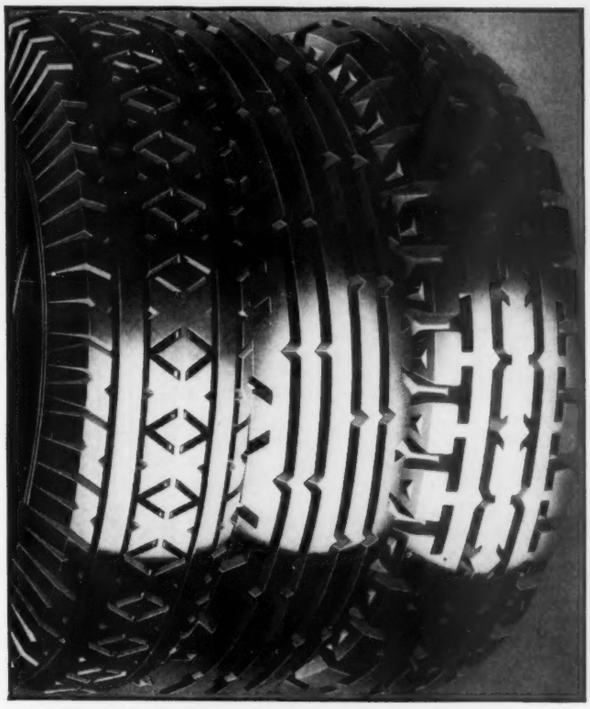

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## Dr. Frank C. Whitmore

● Dr. Frank C. Whitmore, Dean of the School of Chemistry and Physics, and director of petroleum chemistry research, at Pennsylvania State College, has been awarded the Nichols medal for 1937, by the New York section of the American Chemical Society, for outstanding work in metallo-organic compounds, in aliphatic chemistry and in the polymerization of olefin hydrocarbons. The medal was established in 1902 by W. H. Nichols, president of Allied Chemical and Dye Corp., to stimulate research in chemistry.

Dr. Whitmore has occupied his present position since 1929. Previously, he gained a wide experience in research in Rice Institute, Minnesota and Northwestern universities, and elsewhere.